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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

Vol. 89, No. 2 FEBRUARY, 1936 Member A.B.C.—A.B.P.

Starting in This Issue

"THE CRIME OF ARSON"

An unusual series of articles

By GEO. O. MANSFIELD

UNDERWRITERS' PERFORMANCE *with the New* BARTON F-4 & F-5 CENTRIFUGAL FIRE PUMPS

AT THE LOWEST PRICES ON RECORD!

Two years ago we gave our Engineering Department these instructions:

"Design a new line of Barton Fire Pumps —fine enough to meet ALL Underwriters' requirements. **But keep your costs way down** —within the reach of EVERY community, even smaller communities that can't afford our standard U-Type Barton Pumps."

That was a big order, but our engineers came through with flying colors. They perfected the F-4 and F-5 Barton, Direct-Drive Centrifugal Fire Pumps—announced two months ago. And, frankly, these pumps are better by far than we ever hoped to achieve.

PERFORMANCE IS MARVELOUS! 400 gallons per minute from suction with the F-4; 500 gallons per minute with the F-5! Both develop pressures up to 250 pounds. Both pump nearly half as much again when operating from hydrants. BOTH HAVE PASSED EVERY TEST REQUIREMENT OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, Front-Mounted on a Ford V-8.

AND HOW ABOUT PRICE? **HERE WE SCORE AGAIN!** Despite advanced engineering, wonderful performance, strength and stamina to "take it," **these new Barton Pumps are offered at the LOWEST PRICES ON RECORD for big-time, 400 and 500-gallon capacity units.**

Records show that more than nine out of every ten accidents are sideswipes. Head-on accidents are the exception; sides-swipes the rule. A FRONT-MOUNTED BARTON FIRE PUMP IS OUT OF THE DANGER ZONE. With thousands of Barton Pumps in service, we know of only one ever damaged by collision. FRONT-MOUNTING = CONVENIENCE + ECONOMY + GREATER SAFETY.

Each pump has the dependable Barton Automatic Primer and time-tested Barton Power Take-Off as standard equipment—and every other feature of our U-Type Barton Fire Pumps except the Gear-Drive. A new F-4 or F-5 Pump can be installed on any standard truck without a SINGLE CHASSIS CHANGE—**mounting charge only a few dollars.**

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BARTON U-Type Fire Pumps With Our Famous Built-in Gear Drive

Smashing Pressures at LOW Motor Speeds

The Very Finest Front-Mounted Centrifugal Fire Pumps, built in 350, 400, 500 and 600-gallon sizes—ALL UNDERWRITERS' Tested

Every U-Type Barton is regularly equipped with our built-in Gear-Drive. **Using the Gear-Drive your motor operates at about ONE-HALF pump speed.** The advantage is obvious. You can turn a U-Type Pump wide open—get 250 pounds pressure—AND THE MOTOR LOAFS ALONG AT MODERATE SPEED. You protect your motor **completely** when you select a Barton U-Type Pump with this motor-speed-reducing feature.

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American Steam Pump Co., Battle Creek, Mich.

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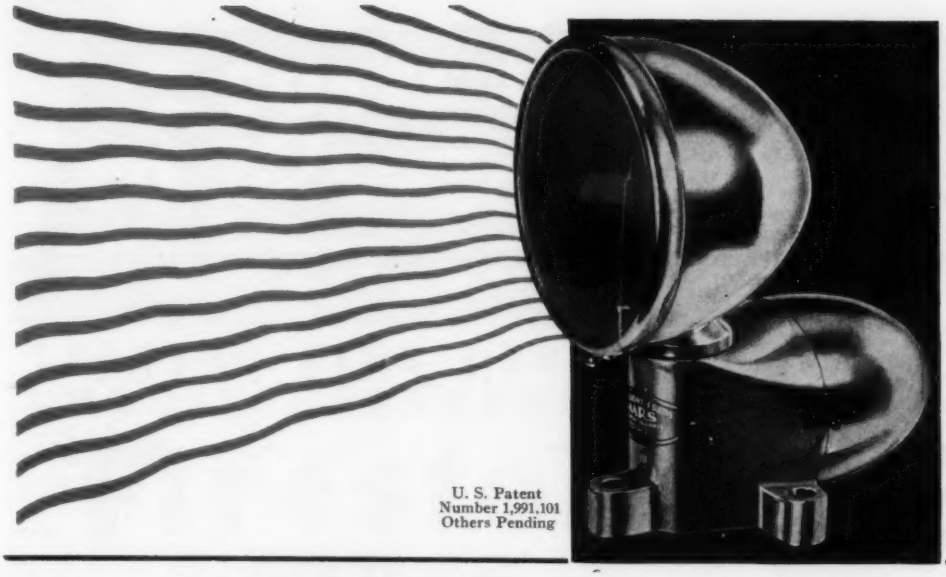

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The "LIGHT FROM MARS"

Commands Instant Attention!

IT makes a driver of a fire apparatus supreme master of the highways, because the Light From Mars oscillates from building line to building line, throwing a powerful figure eight beam of red light a mile ahead of apparatus in the thickest of traffic.

It commands instant attention because it is the only light of its kind, and it is known from coast to coast as the Fire Signal Light, being adopted and used in 200 fire departments with the greatest success of any signal light that has ever been introduced to a fire department. This light being constructed of the finest, of the best material obtainable, operates on S. K. F. ball bearings throughout, uses the well-known Hamilton Beach motor, special wound and enclosed in a casing, making the light weather-proof throughout. The red glass is of selene, that is made special for fire departments and used only by the Mars Light Company. Workmanship and material are the highest grade obtainable and the light will operate at 40° below or 120° F. It will never fail and that is why Mars Light Company can guarantee this light for 5 years.

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It is custom-built and easily installed. It is also endorsed and used by the leading fire apparatus manufacturers as the greatest safety insurance you can buy. Protect the lives of your men and your valuable apparatus with the Light From Mars.

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PROTECT THE LIVES OF YOUR MEN AND YOUR VALUABLE APPARATUS WITH THE LIGHT FROM MARS

A Consolidation of
FIRE AND WATER ENGINEERING
and THE FIRE ENGINEER

FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

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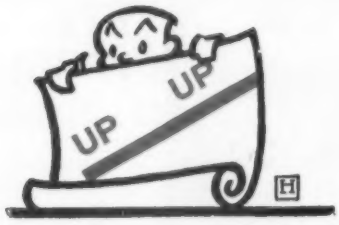

BUSINESS IS ON THE UP AND UP:

—facts prove it

● **Fact 1—The circulation of FIRE ENGINEERING is UP. For 18 consecutive months now our circulation has shown a steady increase. During 1935, for example, circulation increased 15% over 1934.**

● **Fact 2—The fire equipment business is UP. Most reliable indicator of this—shipments of motor fire apparatus—shows that sales for 1935 were 44% ahead of 1934. 110% ahead of 1933!**

● **Fact 3—The makers and suppliers of fire equipment are waking UP. We know this is true because advertising in FIRE ENGINEERING is UP. During 1935, we carried 38% more advertising than in 1934!**

● **Just two years ago we said, in this column, "The fire equipment business is beginning to show real signs of life."**

● **Don't say we didn't warn you.**

The Publishers

IN THIS ISSUE

VOL. 89 February, 1936 No. 2

Page

With the Editor 49
One Way to Check Arson
By Fred Shepperd

The Crime of Arson (First of a Series—Illustrated) 50
By George O. Mansfield

Beautification of Honolulu Fire Stations (Illustrated) 54

Gases, Chemicals and Hazardous Materials (Illustrated—Continued) 56

Promotional Study Course (Continued) 57

The Round Table Department 58
Discussion on Testing Brakes on Fire Apparatus (Continued)

Questions and Answers 61

The Watch Desk 63

What's Burning? (Illustrated) 64

Manufacturers' Announcements (Illustrated) 72

Convention Dates 72

False Alarm (Illustrated) 78
Humorous Side of the Fire-Fighting Profession

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Audit Bureau of Circulations
Associated Business Papers

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IT COSTS SO LITTLE TO *Protect Lives* WORTH SO MUCH

LEADING FIRE DEPARTMENTS CHOOSE DEPENDABLE, SAFE

Firestone TIRES

WITH lives and property at stake, put Firestone Tires on your equipment for greatest security plus lower operating costs. Firestone High Speed Heavy Duty Tires run up to 28° cooler giving greater blowout protection and longer non-skid mileage!

Patented Firestone manufacturing processes account for Firestone advantages. Every tiny strand of every cotton cord is soaked and coated with pure liquid rubber to prevent the internal heat and friction that are the greatest enemies of tire life. These tremendously strengthened Gum-Dipped cords give these tires increased flexibility, greater toughness. And the extra-heavy non-skid tread that is locked to the body of the tire by two extra layers of Gum-Dipped High Stretch Cords adds still more to Firestone super-safety.

Fire Departments can depend on Firestone Tires — for trouble-free service, longer wear, and lower per-mile costs. Be sure to specify Firestone High Speed or Ground Grip Tires when ordering new equipment!

Listen to the Voice of Firestone featuring Richard Crooks or Nelson Eddy—with Margaret Speaks, Monday evenings over Nationwide N. B. C.—WEAF Network

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With Help at His Fingertips...

When fire breaks out, your watchman must discover it quickly, and summon the fire department immediately. Any delay may mean the difference between a trivial loss and disaster.

But unless your watchman is under the continuous supervision of an outside agency, you can never know that he is actually patrolling your premises. Nor does he have at his fingertips the instant aid of emergency forces.

To entrust your protection to your watchman *alone*—isolated from the outside world, with only his sense of duty to keep him alert, only his unaided judgment to rely on in emergencies—is to gamble with CHANCE.

An A. D. T. Supervised Watchman Has Emergency Help at His Fingertips

A.D.T. Supervision eliminates the watchman's greatest handicap—*isolation*. His patrol stations are electrically connected with the A.D.T. Central Station. Any delay in his signals is immediately investigated by an armed and bonded A.D.T. Patrol. In case of fire, private fire alarm boxes conveniently located throughout the building enable him to summon the fire department instantly and accurately.

By keeping your watchman ever alert . . . by taking over his duties when for any reason he abandons his patrols . . . by placing at his fingertips the means to summon instant assistance in emergencies . . . A. D. T. Supervision assures you of positive and continuous protection against the hazard of fire. Means are also provided for the watchman secretly to summon armed assistance in case of burglary or holdup.

A. D. T. Central Station Watchman Supervisory and Manual Fire Alarm Service is available in all principal cities. Send for our free booklet, "And All Is Well", which completely describes this service.

A. D. T. Central Station Protection Services

WATCHMAN SUPERVISORY AND MANUAL FIRE ALARM SERVICE : : : BURGLAR ALARM : : : HOLDUP ALARM
SPRINKLER SUPERVISORY AND WATERFLOW ALARM SERVICE : : : "AERO" AUTOMATIC FIRE ALARM

Controlled Companies of **AMERICAN DISTRICT TELEGRAPH COMPANY** · 155 Sixth Avenue, New York, N. Y.

A.D.T SYSTEM

A NATION-WIDE PROTECTION SERVICE AGAINST FIRE, BURGLARY AND HOLDUP

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3 REASONS WHY LEADING FIRE DEPARTMENTS depend on

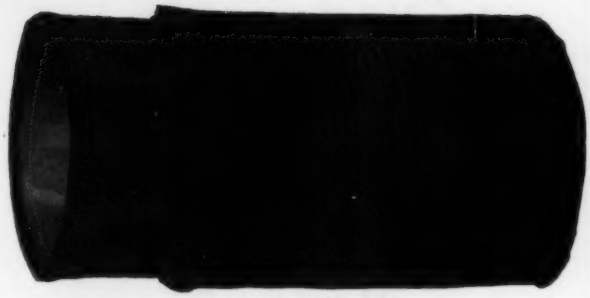
MANHATTAN Fire Hose

RADIO-ACTIVE TREATED MILDEW-PROOF

Flat-Folding

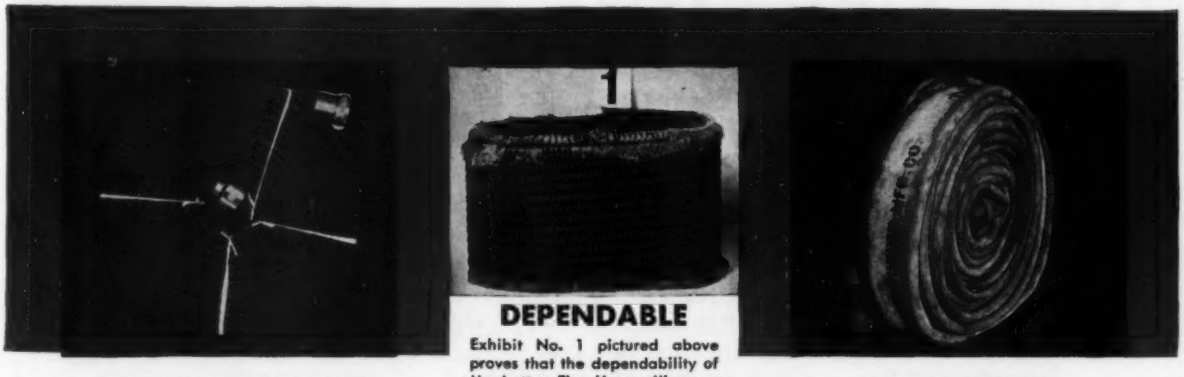
Dependable

Durable



PATENT APPLIED FOR

Manhattan chemists have perfected an original process for treating fire hose fabric with salts of rare earth metals which have radio-active properties. This process—exclusive with Manhattan—renders the hose mildew-proof and moisture-repellant, rot-and freeze-proof. It makes careful drying unnecessary and preserves the original strength and flexibility. Thus the useful life of Manhattan FIRE HOSE is limited only by natural wear or possible accident in use.



FLAT-FOLDING

Easy to Handle

Hose made in the Manhattan way not only assumes a flat shape easily for folding, but retains the maximum strength of fabric while rounded out under pressure as the hose has been finally cured in its naturally round shape. Note in illustration how compactly Flat-Folding Hose coils and folds.

DEPENDABLE

Exhibit No. 1 pictured above proves that the dependability of Manhattan Fire Hose will never be endangered by mildew or fabric rot. This is a piece of Radio-Active Treated Manhattan Hose as it looked after having been buried for three months in a Florida swamp. It was unaffected by mildew. A sample with another treatment was badly rotted. Other stringent factory tests supplement this mildew test and service records add their stamp of approval.

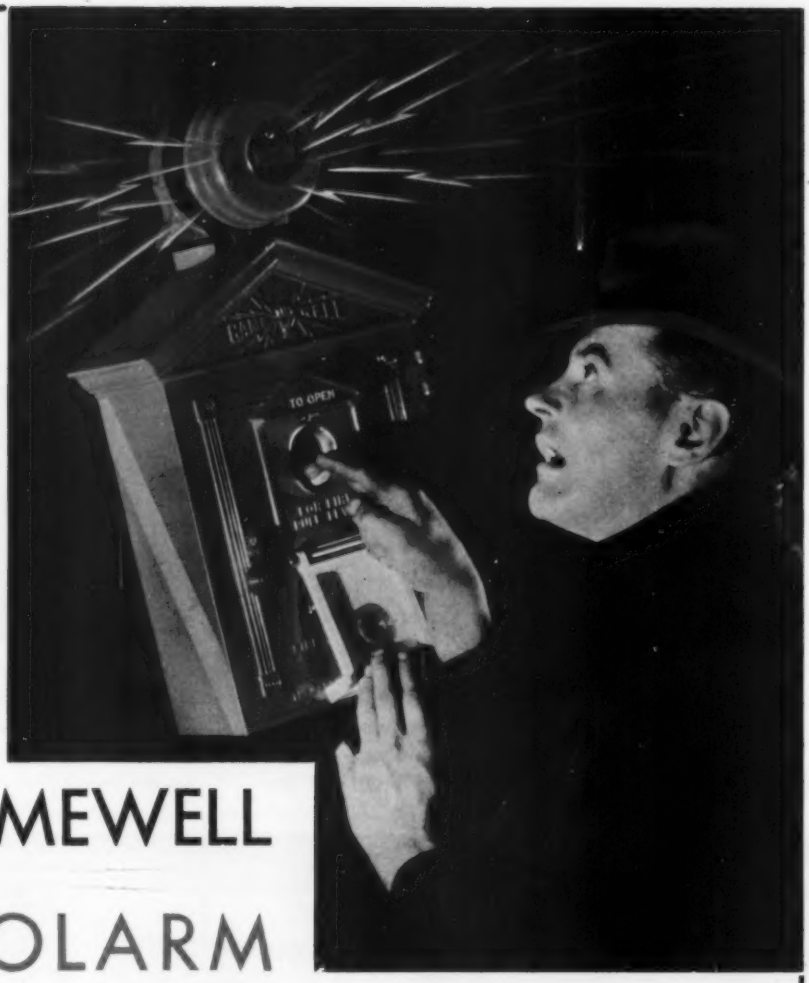
DURABLE

Long Service Records

The illustration shows a length of Manhattan Fire Hose made in 1903. After 32 years it is still in excellent condition. Similar service records prove the durability of Manhattan Fire Hose — now further increased by the exclusive radio-active treatment.

THE MANHATTAN RUBBER MFG. DIVISION
OF RAYBESTOS-MANHATTAN, INC.
Sole Manufacturers of Radio-Active-Treated Mildew-Proof Fire Hose
EXECUTIVE OFFICES and FACTORIES, 52 TOWNSEND ST., PASSAIC, N. J.

Reduce FALSE ALARMS with NEW GAMEWELL ARRESTOLARM



FALSE ALARMS from fire alarm boxes can be reduced most effectively by having a local warning signal sound simultaneous to the operation of the box. The loud and distinctive warning shriek of the new **ARRESTOLARM** accomplishes just this — it attracts the attention of police, passersby and local residents to the box so quickly that the person operating the box cannot escape, at least not without being identified for apprehension later.

The **ARRESTOLARM** Signal is the most practical device now available for reducing false alarms. It is efficient, low in price, economical to install and costs nothing to maintain. Its mechanical movement requires no expensive connection to electrical power lines. Furthermore, it does not discourage the use of fire alarm boxes for legitimate alarms either by trapping the person sending in the alarm or by complicating the method of operating the box.

The **ARRESTOLARM** Signal is attractive—both in design and finish. Its intermittent warning signal is emitted from a well protected horn located in the back of the unit. The complete device is weatherproof, with non-corrosive parts used throughout. And, it cannot interfere with the operation of the box mechanism in any way.

Try out the **ARRESTOLARM** Signal on a few of your boxes which are operated most frequently for false alarms. A trial will convince you of its value. Shall we send you a copy of our descriptive bulletin A3-1?

THE GAMEWELL COMPANY

Newton, Massachusetts

FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 89 FEBRUARY, 1936 No. 2

With the Editor

One Way to Check Arson It is quite generally agreed that the loss through incendiary fires makes up approximately one-half the annual national fire loss.

Arson must still prove a profitable enterprise; otherwise this industry would not remain in the ranks of big business, with its more than $100,000,000 turnover yearly.

Some cities, and even states, have recently shown marked improvement in putting firebugs out of circulation; but the problem is by no means solved.

To convict an incendiary it is necessary to have convincing evidence; to secure such evidence, men first at the scene of a fire must be capable of detecting suspicious conditions, of finding and preserving evidence. And when suspects are finally brought to trial, those who found the evidence must be capable of presenting it in such manner as to prevent nullification by clever defense attorneys.

Because of the nature of the crime, evidence is frequently all but destroyed. Unusual scrutiny, and insight into the methods employed by incendiaries, are most essential if convictions are to be secured.

Fire company officers and men are ordinarily the first to enter premises at a fire. On their ability to secure and present information to build up a case depends the success of the prosecutor in securing conviction. Thus it is the company officers and men who must be trained to work with the district attorney. Any fully effective program to reduce arson losses must include such training.

The Massachusetts State Police have been notably successful during the past few years in convicting firebugs. Arson activities of that organization are under the direction of George O. Mansfield, Chief Fire Inspector, an unusually capable officer, and one whose reputation is nationwide. The methods he has developed, and followed, might well be adopted by any organization which is anxious to reduce the number of malicious fires.

In order that the readers of FIRE ENGINEERING might benefit by Mr. Mansfield's experience, he is setting forth, in a series of articles in this journal, full details on the various plans of apprehending and prosecuting incendiaries. The first article appears in this issue.

The series should prove particularly valuable to those departments wherein it is desired to train officers and men in this highly important activity.

Fred Sheppard

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The Crime of Arson

First Article of a Series Which Will Cover the Detection of Incendiarism and the Preservation of Evidence

By GEORGE O. MANSFIELD
Chief of Fire Investigation, Massachusetts State Police

Lieut. Col. Paul G. Kirk
Commissioner of Public Safety, Massachusetts

FIRE department officials throughout the country have long realized that fires caused by incendiarism are in the category of those that can be classed as preventable. It is therefore, imperative that the elimination of incendiarism must be considered in the campaign of fire prevention which all fire officials are engaged in daily to lower the staggering losses which have been saddled upon the country through fires.

These losses reflect the business load of the district.

Many communities have already awakened to the fact that their Fire Departments can become more efficient and losses reduced through the activities of well-organized and trained arson squads, and that money spent for this purpose is sure to pay big dividends. The commonwealth of Massachusetts has been foremost in this activity and maintains, in the State Department of Public Safety, a Fire Prevention Division, under the Commissioner of Public Safety and State Fire Marshal, a squad of trained investigators whose principal duties are not only the investigation of incendiarism and the apprehension and prosecution of fire bugs, but also to cooperate with all Fire Departments, and also to develop in each individual department a well-trained bureau to assist the state officials in the work of fire loss reduction.

Records of accomplishments of the Fire Marshal's division of the Department of Public Safety in Massachusetts support conclusively the wisdom of the state officials in building up this great cooperative body throughout the Commonwealth. Instead of having only sixteen trained state officials investigating suspicious fires, there are now several thousand firemen trained in the technique of discovering evidence of incendiarism and the proper preservation of such evidence after it has been found. In time, every fireman will be classed as a public servant who is trained not only to extinguish fires but also to prevent them, especially as far as incendiarism is concerned.

In Massachusetts, every fire school has arson detection as part of its curricula. In addition to the department schools, there are maintained at twelve convenient points throughout the Commonwealth, Regional Fire Schools, conducted under the direction of the Division of Vocational Training of the State Department of Education. At these regional schools, in the past two years, over two thousand firemen were instructed in arson detection and the preservation of evidence. Illustrated lectures are given by an officer of the Department of Public Safety, Division of Fire Prevention. Similar lectures are given at fire department schools and, also, many lectures are given at fire stations where the Chiefs assemble their men for instructions.

Foiled by a Band

A bunch of matches was placed around a protruding cigarette, and a wrapper of newspaper placed around all. A rubber band prevented the package from opening. When the cigarette was lit, it was supposed to ignite the matches which in turn would set fire to the newspaper. But the rubber band was so tight that it snapped off the burning part of the cigarette before the matches were reached.

Stephen C. Garrity
Massachusetts Fire Marshal

There is evidence that much good has resulted.

During the first year that his cooperative program was carried out on such an extensive scale, the incendiary loss was actually reduced $714,766.65 and a reduction has been noted annually. This proves that such activities do pay a worthy dividend. The number of arrests and convictions for arson and other burnings have likewise shown a higher percentage of convictions. In 1934, there were 198 arrests, 161 convictions and only 36 not guilty cases; while in 1935, there were 129 arrests, 101 convictions and only 12 not guilty cases. Of the 101 convicted in 1935, 23 were sent to State Prison, 15 to House of Correction, 26 declared insane or defec-

tive delinquents, 11 were sent to reformatories and industrial schools, and 26 placed on probation.

Object of Series

In an effort to be of benefit to the fire service in general, and to bring about increased efficiency along the lines of detection of evidence of incendiarism, the proper handling of such evidence, and subsequent prosecution of fire bugs, FIRE ENGINEERING has invited the author, who is Assistant to the State Fire Marshal of Massachusetts, to prepare a series of articles, outlining the procedure which has placed Massachusetts in the foreground in this work.

Lieutenant Colonel Paul G. Kirk, Commissioner of Public Safety of Massachusetts, and Stephen C. Garrity, State Fire Marshal, head of the Division of Fire Prevention, are both members of the Massachusetts Fire Chiefs' Club and are actively interested in this work.

These articles will include types of fire bugs, their motives and their methods, investigation, essential evidence, collecting and preserving of evidence, fundamentals in building up arson cases, presenting evidence in court, court decisions to support procedure and case histories of actual cases where convictions have been secured. Numerous photographic illustrations will be included depicting evidence of incendiarism and the pertinent features which brought about convictions.

Types of Incendiaries and Motives

The most difficult type of incendiary which we have to contend with, is the pyromaniac. This is probably due to the fact that pyromania is not confined to any class of individuals and may manifest itself in the most unexpected quarters. During certain periods, the person afflicted with this mania has an uncontrollable desire to commit arson or burning and feels relief or pleasurable sensation when watching flames. The attacks usually come on suddenly, but persons thus afflicted, have been known to make careful preparation for fires over quite a long period of time. The pyromaniac differs from most insane persons in that he has full insight into the diseased character of his mental condition but the impulse to set fire is so strong, that he invariably obeys it.

Every institution for the care of the insane contains many inmates who might properly be classed as pyromaniacs but, unfortunately, such institutions do not hold all of these dangerous types of firebugs. They are to be found in practically every community and their contribution to the fire loss of the country is appalling. Experience has shown that a large percentage are in their teens, and this class is usually more readily apprehended because they do not possess the cleverness and cunning which may be found in the firebug of the older type.

Whenever an epidemic of incendiary fires has developed and particularly, when the characteristics of these fires are similar, the responsibility may usually be traced to a pyromaniac. On discovery of a situation where there is a similarity as to fires, a search should be made immediately for the pyromaniac. In many cases, the guilty one may still be found at the scene and in many instances engaged in actually assisting the Fire Department in extinguishing the flames. To apprehend this particular type of fire-maker, it is sometimes necessary to create a patrol in the neighborhood where the fires occur, and to check the movements of all who may come within suspicion.

The presence of a certain individual at the scene of several fires would be especially suspicious and would warrant immediate questioning as to the reasons for the person's presence.

This point is well illustrated in a recent case at Worcester, Mass., where the Deputy Chief of the Fire Department observed the same person at three consecutive fires standing at the fire-alarm box to direct the apparatus to the scene of the fire. Taken into custody for questioning, the suspect broke down and confessed to the setting of fourteen fires.

To illustrate another point—that is, that this form of insanity may manifest itself in the most unexpected quarters; in another Massachusetts city recently, a man who conducted a very successful business by day was apprehended as a prowling firebug, who spread terror by night.

A Little Drama That Never Took Place

This set up was found in a 22-room house. Plaster was removed from ceilings to allow the flames to progress easily. The broom had been soaked in kerosene, and the barrels were full of inflammable material. The set up was arranged to conduct the flames to the floor above.

While the pyromaniac is the most dangerous, however, the most troublesome firebug is the type who sets fires for the purpose of securing profit from insurance and this type is the one producing the largest number of suspicious fires. People who are in straightened financial circumstances, desiring quick sale of property or a change of location, or who have a desire to secure some ready cash to meet overdue bills, frequently resort to the torch in a desperate effort to accomplish the desired end. Under the insurance type of firebug, there is the professional fire-maker known as the "torch" who may be hired to set fires for others who desire to collect insurance.

In addition to the two major types of firebugs, already described, a long

list could be added but perhaps for the purpose of this article, it will be much better to classify the additional types under the title of "intent and motive" because of the fact that the reasons why people set fires can be more readily understood under such a heading; Intent and Motive are so closely related to the major types, that these subjects will be treated under this heading.

Legal Intent

INTENT is presumed from the commission of the act, as a person who is presumed to intend his voluntary acts and the natural probable consequences. Any act done intentionally is a willful act and today in most states, the statutes now make the setting of a fire (even to your own building) a crime, because the mere doing of the act, being illegal under the statute, will supply the intent and malice required to make it a violation under the statutes. While in legal theory, proof of the motive is not necessary, it is, however, actually essential in practice. Never go into court, if you cannot show a motive, because most cases are based on circumstantial evidence and the motive is the foundation upon which circumstantial evidence is usually found to be admissable.

Among the motives found by actual experience in investigating suspicious fires over a period of years in addition to the insane wish of the pyromaniac and the mercenary desire to collect insurance, we have the following:

Hiding the Evidence

TO CONCEAL CRIME—such as a murder where the building was burned in an attempt to destroy the body or evidence of the homicide. Firemen, upon finding a body in the ruins, should immediately notify the coroner and if there are any suspicious circumstances do not disturb the body and surroundings until the coroner has an opportunity to make an examination for possible wounds that might be of a suspicious nature. Fires are set many times to prevent the discovery of a robbery, such as occurred during the past year in Massachusetts, where a band of organized thieves stole several hundred thousand dollars' worth of antique furniture from buildings, which were later burned to prevent discovery of the thefts.

TO AID A CRIME—such as setting a fire in one part of a city or town to attract attention toward the fire while the crime is committed in another section. Probably the most unusual of this type of fire occurred in a Massachusetts community where a schoolhouse was set on fire to draw out the Fire Department, so that the fire station could be robbed in the absence of the fire fighters.

SPITE AND REVENGE. A man burned the property of a person who was a witness against him in a civil case. In another case, a man who had placed his property in his wife's name so as to put it beyond the reach of creditors, was later divorced by the wife, who retained title to the property. The divorced husband destroyed it by fire to prevent her from enjoying the use of such property.

An Explosion That Failed to Fire

Paper was stuffed into the opening of a varnish can. The paper was set ablaze and the designer of the plant intended the flame to reach the inside of the can and explode the content. But the paper was jammed in so tightly that it burned as a wick, and burnt out when the liquid level dropped below the paper.

Motives of Crime

TO DESTROY EVIDENCE. The financial secretary of a lodge burned the building to destroy books of records to prevent an audit disclosing shortage of accounts. There have also been instances of fires set to prevent illicit stills, illegal liquor, gaming implements, lottery tickets and similar other articles from being seized as evidence. Such fires have been actually set during police raids.

TO SETTLE AN ESTATE. Heirs in dispute as to whether or not property should be sold or retained. Fire set to get insurance so that cash would then be divided among the heirs.

SALE OF LAND WITH BUILDINGS TO BE REMOVED BEFORE A CERTAIN DATE. Burned to accomplish the above part of contract.

BUILDING WRECKING CONTRACT. In the case of a contract to tear down a building, the contractor found it too difficult and stood to lose financially. He set it on fire to relieve himself of liability. Probably one of the most unusual fires along the above lines, was the setting of a fire to burn the building for the purpose of securing work in clearing up the ruins.

Fires Set by Firemen

FIREMEN. It would seem almost inconceivable that firemen would set fires, but, unfortunately, there are many such cases recorded, such as a fireman on his day off who wanted to show a small-town department how to work; volunteers who become restless and want action; a desire to try out new apparatus; also part-time firemen, who are paid for actual service while fighting a fire, and who set fires to secure remuneration.

POLICE OFFICERS. There are cases recorded, of police officers setting fires to get credit for discovering same and sounding the alarm.

INSURANCE ADJUSTERS. Fires have been set by insurance adjusters for the purpose of securing the contract to adjust the loss.

BUILDING CONTRACTORS. There have been a number of cases where fires were set by building contractors to secure the contract for replacing and repairing the building.

Business Troubles

STRIKES. During strikes and labor difficulties, factories and mills have been fired by strikers, and the homes of strike breakers or loyal workers have also been set on fire for the purpose of intimidation.

BUSINESS RIVALRY. Fires have been set for the purpose of eliminating the business rivalry of another concern engaged in similar business.

TO SECURE EMPLOYMENT AS WATCHMAN. In a given case, a man set several fires to a factory and then wrote seeking employment as a watchman, emphasizing the fact that the recent fires would indicate that the services of a good watchman were desirable.

BUSINESS OUTGROWN QUARTERS. Fire was set to secure insurance, to erect larger quarters to meet the requirements of a growing business.

TO LIQUIDATE CORPORATION. When stockholders were unable to agree on the question of liquidation, minority members had fires set so that liquida-

tion would be more easily accomplished.

To Break Jail. One of the most diabolical schemes to escape from jail occurred in a state prison in Massachusetts, where three long-time convicts conceived a scheme to escape jail during a fire. The fire was set at night in a workshop after which the convicts secluded themselves in a nearby storehouse with the intent to waylay firemen by slugging them with a heavy instrument. The convicts were to don the firemen's apparel and walk out as they hoped, unnoticed. This well-laid plan was fortunately frustrated when the fire spread so rapidly that it drove the convicts from their hiding place and they were willing to be rescued by the firemen.

In addition to these cases, there can be added some of the most unusual motives, such as that of a young admirer who set fire to his sweetheart's home, so that he might rescue her and win her admiration, and the religious fanatic who felt he was acting by divine right in destroying the places of worship of other denominations.

MANY NEW ENGLAND CHIEFS ATTEND FIRE CONFERENCE AT WORCESTER

Attention Directed to Severe Losses Caused by the Common Fire Hazards—Value of Water Holes Summarized

By Harry Belknap

Stephen C. Garrity, State Fire Marshal of Massachusetts, and George O. Mansfield, Chief Fire Inspector, presided at the fire-fighting conference held in the Memorial Auditorium, Worcester, Mass., on January 10 in connection with the Union Agricultural Meeting.

At the morning session Chief Charles L. McCarmy delivered an address of welcome and paid a tribute to the success of the firemen's training schools held under auspices of the Massachusetts Department of Education.

Dwelling Fires and Other Subjects Discussed

Alfred N. Miner, Vice-President, Massachusetts Safety Council, spoke on "Fires in Dwellings—Losses and Causes." He said that statistics showed carelessness and negligence to be the principal causes of fires in dwellings. He gave figures covering a five-year period in the state and showed the numbers, losses, and causes of fires. Careless smoking, defective electric wiring, spontaneous ignition, defective chimneys, and defective cooking and heating appliances led the list in order named as causes of fires in dwellings.

Captain A. L. Huntoon, Springfield Fire Department, spoke on the inspection of oil burners and fuel oil tank installations. He said the five inherent dangers are faulty installation, improper adjustment and operation, defective burners, careless handling of fuel oil, and improper storage of fuel oil.

Ellis L. Dennis, Executive Secretary, State Board of Electrical Examiners, spoke on "Electrical Equipment." He warned against use of sub-standard wires and against devices of amateur electricians. He said that all electric pump connections should be of a permanent nature.

Chief Daniel B. Tierney, of Arlington, Mass., Second Vice-President, International Association of Fire Chiefs, discussed "Safety in the Home" and told of some hazards of improper housekeeping. He stressed the importance of elimination of rubbish and removal of wooden cellar bins and partitions. He told of the good results obtained by residence inspection by firemen in Arlington.

John Casey, State Building Inspector, Worcester, described the fire prevention rules for theatres, schools, hotels, churches, and other public buildings. He said that chain ladders are preferable to rope fire escapes for hotel rooms.

Percy Bugbee, Assistant Managing Director of the National Fire Protection Association, spoke on "The Danger from Shingled Roofs" and pointed out that flying brands from roofs helped to spread the conflagrations in Nashua, N. H.; Auburn and Ellsworth, Me., and Newburyport, Mass.

The session closed with remarks by Chief George L. Johnson, Waltham, Mass., and by Fire Marshal Garrity, who stated that all Fire Chiefs should have the protection of civil service rules or a tenure of office act.

The afternoon meeting started with the showing of the motion picture "The Bad Master" produced by the Automobile Insurance Company, of Hartford, Conn. The speakers were Chief Michael J. Shea, Fitchburg, Mass.; Chief Fred H. Sibley, West Springfield, Mass., and Chief Albert C. Melendy, Nashua, N. H.

Among those who took part in discussion and spoke briefly were Chief Charles H. French, Manchester, N. H.; Chief William T. Happny, Concord, N. H.; Albert C. Maxwell, Reading, Mass.; Howard Russell, Massachusetts Farm Bureau; and Maxwell C. Hutchins, State Fire Warden of Massachusetts.

Ex-Chief Peter E. Walsh, Boston, paid a tribute to the late Herbert J. Hickey, Executive Secretary, the Boston Fire Department, who died on January 8.

Use of Water Holes

Chief Melendy, of Nashua, N. H., told of the success of the water reservoirs constructed to provide protection to homes in locations where there are no hydrants available.

The following report was given of a recent survey of the water holes constructed in Massachusetts for protection of forest and rural communities:

Survey on Water Holes in Massachusetts

Number of Cities and Towns in Massachusetts	355
Number of Cities and Towns (Reported to date)	250
Number of Water Holes in These Cities and Towns	1,005
Number of Water Holes Which Are Full	754
Number of Water Holes Which Are Low or Dry	251
Number of Buildings Protected by These Water Holes	9,753
Value of Buildings and Contents Under This Protection	$22,213,070
Number of Times Water Holes Used	84
Estimated Loss With Water Hole Protection	$105,087
Estimated Loss Without Water Hole Protection	$733,082

New Fire Fighting Device Demonstrated in London

A demonstration of a new form of fire extinguishing device was given at Clapton Stadium, London, by the Society for the Distribution of Apparatus for Civil Protection, of Rome. The extinguishers or "bombs" are placed on ends of poles and these are placed at strategic positions in the burning structure. The bombs attached to poles may be seen on the ground in the foreground. This system of protection has been installed at the Vatican.

Firemen of the Waikiki Beach Station, Honolulu, T. H., Engaged in Landscape Work, in the Effort to Beautify Their Fire Station Grounds

Beautification of Honolulu Fire Stations

Architects Design Stations to Fit Surroundings and Firemen Vie with Each Other to Make Grounds Attractive

NOT all American firemen spend their time playing checkers or reclining in chairs in front of the station. Firemen in Honolulu, territory of Hawaii, spend much of their spare time in beautifying the surroundings of their stations by planting flowers and shrubs, creating beautiful lawns and making their headquatrers as attractive as anything in the neighborhood. Time off from examinations, class instruction, care of equipment and the regular drills is usually spent in making improvements to the surrounding area.

Stations Designed to Fit Surroundings

Encouragement for this pride in the appearance of the stations comes from the forethought of the architects, who in each case studied the neighborhood in which the station was to be built and designed a building to fit the surroundings, incorporating, of course, all the utilitarian essentials.

The station at Waikiki Beach commands enthusiastic praise from all visitors, as well as residents. The low, rambling "Hawaiian style" structure is placed at the head of a broad palm-lined highway. Flowering trees, shrubs and flower areas make a tropical background for the creamy-white building, with its brightly colored roof. Did one not know it to be a fire station, the natural reaction to its beauty of design and floral background would be to believe it a private home.

Other stations in the Makiki, Palama, Kaimuki, Kalihi and Kakaako sections of the city are of Spanish or Mediterranean architecture, serving the residential areas both in a utilitarian and aesthetic sense.

Modernistic Design for Station in Business Area

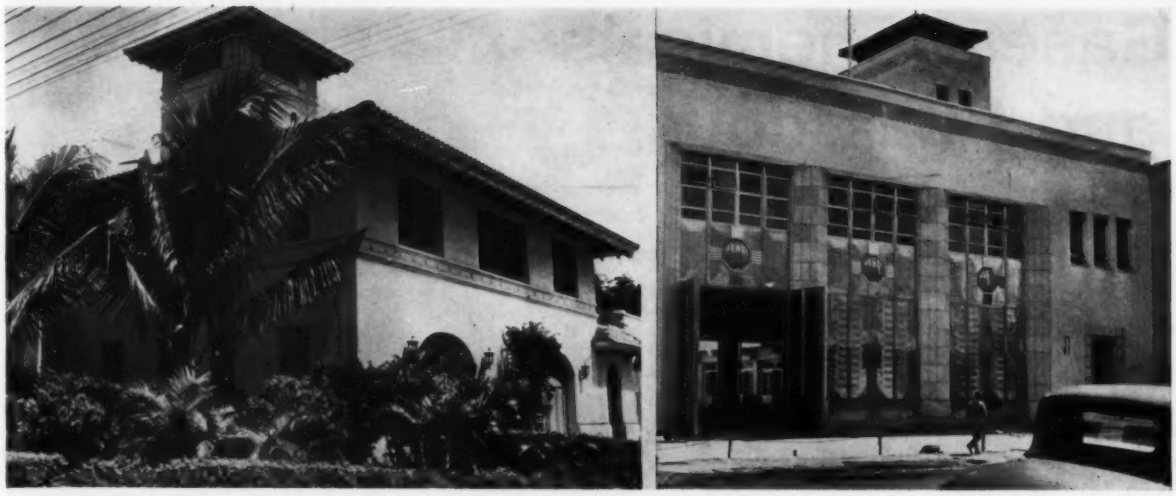
In marked contrast to stations in the residential districts, is the new $75,000 building in the business area built with the aid of federal funds. Modernistic in design, the towering doors of shiny metal and the exterior stone trimmings add height to the appearance of the two-story structure, in keeping with the larger buildings of the down town area.

Yet, even here, in the center of the business district, ample provision has been made for the planting of trees, shrubs and flowers. The structure is set back twenty feet from the street.

Recreational Area on Roof of Station

At other stations recreational facilities for the men are usually provided at the rear, but in this new structure, built with the aid of the federal government's PWA funds, a volley ball court and games area are placed on the roof.

Honolulu firemen, like their brother smoke eaters in continental United States, like their checkers now and then, but never when it interferes



Left—The Central Fire Station in Honolulu, T. H., which Cost $75,000 and Has a Decidedly Modernistic Note. It Is Set Back Twenty Feet from the Street, So As to Allow of Landscaping Effects. Right —Fire Station at Kakaako, Honolulu. Landscaping Work Is Done by Firemen of the Department

with keeping their stations attractive. They say they don't care what any other station does, but it is noticeable that each bit of landscaping at one station usually spurs on the others to do a bit of improvement as well.

CORRESPONDENCE

Mice and Matches

To the Editor:

In one of your recent issues of FIRE ENGINEERING, the question was raised in regards to rats and mice gnawing matches, resulting in fire.

There has been much argument pro and con on this issue, so I would like to relate my own personal experience on the matter.

A short time ago while doing some electrical wiring in a vacant house that was being remodeled, I uncovered a nest made by mice. This nest was under the floor a few inches from an open partition leading into the attic, which also was all open. In this nest I found several matches, one of which showed very plainly the teeth marks on the head of the match. I have the match for evidence.

Yours truly,
C. E. DAVIDSON,
Engine Co. No. 1, Sayre, Pa.

Suggests Adoption of the Covered Apparatus

To the Editor:

I have enjoyed my stay in the United States so much that I postponed my sailing until the last day that would allow me to spend Christmas with my people in England.

I feel that I cannot leave your hospitable shores without expressing my sincere gratitude to the many friends I have met connected with the fire service of this great country. And may I be extended the liberty of expressing through the columns of your valuable journal my best wishes for the New Year to that magnificent body of men, the Fire Service of America.

In this connection might I express surprise that as far as I can discover you have not yet adopted the streamline enclosed fire engine over here. This is a bit difficult to understand, as the equipment of the American Fire Departments is of the very best.

I think that anyone in the hazardous position of fire fighting should have every assistance in the way of protection. To have to fight the elements of cold, rain, etc., enroute to a fire in these days of enlightenment is quite unnecessary. It will be noticed that practically every one has protection and is able to ride in a covered vehicle, yet a fireman is called upon to turn out of a warm bed and jump on a fire machine which is open to all kinds of weather. From my experience this is pretty trying and tends to unfit him for the super-strenuous work that he has at a fire.

In England and other parts of Europe the tendency is to enclose fire engines, which allows the members of the Fire Department to proceed on a fire call as comfortably as possible.

I have mentioned this to a few of my friends and no one has any objection to adopting this innovation here, but one or two reasons I have heard are on the ground of expense.

Perhaps some of your Fire Chiefs are like I used to be, and think a fireman should be made as tough as possible, and things should not be made comfortable for him. This may come about from the old sailing and steamship days, when things were pretty tough for all the crew, but now the bridge is covered and protected and the crew have special help to make their work as comfortable as possible.

My best wishes and season's greetings, is that the Fire Departments in America will adopt the covered and protected fire machines, even should it cost them a little more. In this connection, I would suggest that your enterprising fire equipment manufacturers put a few models on the market.

I think if there is any prejudice it will soon be overcome, and the protected fire machine to help the fire crew will be found a boon and be adopted by all departments in the United States.

That is my best wish to my friends in America in the Fire Service.

Yours very truly,
M. W. PETT,
Ex-Chief Officer Shanghai and Singapore Fire Department,
An Ex-Vice-President Institute of Fire Engineers (British).

Fire Department Instructors Meet

A Conference of Fire Department Instructors was held at Memphis, Tenn., on January 7 to 10. The following talks were given during the meeting:

"What the Fire Department Instructors' Conference Has Meant in Cincinnati," Marshal H. C. Williams, Drillmaster, Cincinnati Fire Department.

"The Fireman as a Scientist," Prof L. H. Provine, Director, Illinois State Fire College, University of Illinois, Urbana.

"Magic in Fire Prevention," Chief J. W. Just.

"An Experiment in Public Speaking," Chief Harry K. Rogers.

"New Developments in Fire Department Apparatus," A. H. Gent, Engineer, Illinois Inspection Bureau.

"Results of the Oklahoma Plan," W. Fred Heisler, Department of Vocational Education, Oklahoma A. and M. College, Stillwater.

"Cooperation Between Police and Fire Departments," Chief Lloyd Layman, Parkersburg, W. Va.

"Fire Department Records," Horatio Bond, Engineer, National Fire Protection Association, Boston.

"Driving Fire Apparatus," Clarence Goldsmith, Assistant Chief Engineer, National Board of Fire Underwriters, Chicago.

"What the Public Expects of its Fire Department," Clifford Davis, Vice-Mayor, Memphis.

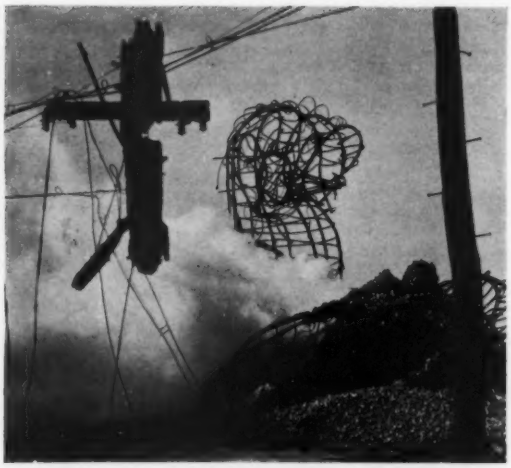
"Construction of Ladders," Capt. Hugh Lyons, Drillmaster, St. Louis.

In addition to the talks there were demonstrations at the drill tower in charge of Chief Rogers, and a session devoted to round table discussion.

Gases, Chemicals and Hazardous Materials

Part VI

In this sixth installment is continued the discussion of chemicals and hazardous materials more commonly encountered in fire-fighting. Methods of shipping and handling and their action under exposure to fire are given for most of the materials.



Intense Heat Is Developed by a Chemical Fire
Note the telegraph pole completely burned away and only supported by its wires and cables

Calcium Nitrate: This material, which may be found in white lumps or crystals, is used in coloring glass and porcelain. It is usually stored in wooden kegs and glass bottles. It is an oxidizing material, furnishing oxygen necessary for supporting combustion and is in a class with sodium nitrate. It presents no particular life hazard but increases the intensity of fire where it is present.

Calcium Oxide (Unslacked lime, quick-lime): This is a very common material encountered at fires and increases the intensity of heat tremendously, where fire has gained considerable headway. It is usually stored in wooden barrels and bags, and if kept dry, represents no fire hazard. But upon contact with water or moisture it may cause the ignition of organic materials, such as wood, paper, etc. It also swells when moist and may burst the containers in which it is stored.

Care should be taken in operating at fires, where large volumes of quick-lime are encountered, to avoid striking the quicklime with water. If this is unavoidable, then the material should be thoroughly drenched to reduce heat which may be generated by the slacking of the lime. In storage it should be placed where it will not come in contact with water and moisture.

Camphene: This is a colorless crystalline substance in turpentine, camphor and citronella oil. It is used in medicine and as a camphor substitute. It is usually shipped in tins, and when heated gives off flammable vapors. It is classed with turpentine. While it presents no life hazard, it should be isolated in storage, and kept in unheated compartments, away from fire or heat.

Camphor: When in its pure form, camphor is a white, translucent, crystalline and volatile material. It is inflammable, burning with a smoky luminous flame. Its flash point is about 125° Fahr.

It is shipped in tins and wooden kegs and is in itself flammable, as previously noted. It gives off flammable vapors when heated, which may form explosive mixtures with air. It constitutes no life hazard, but should be kept away from other materials, and the rooms in which it is kept should be well ventilated and remote from fire.

Incidentally, camphor is extensively used in the manufacture of pyroxylin plastic (celluloid), and it is also used for extinction of vermin and moths, and for medicinal purposes.

(To be continued)

Airplane View of Conflagration in a United States Naval Amunitions Depot
Some of the magazines are shown still burning, while others are reduced to charred ruins. Note trees in foreground, with all vegetation stripped from them by the explosions.

PROMOTIONAL STUDY COURSE

Herein is presented a series of definitions, questions and answers, designed to aid fire department officers in preparing themselves for promotional examinations. In this department, which appears monthly, will be included questions typical of examinations held throughout the country.

Definitions

Dimensions of Building: The greatest horizontal dimension of any building is considered its length, and the next greatest horizontal dimension, its width.

Floor Light: Window (or series of small panes) transmitting light through a floor.

Skylights: Window transmitting light through top or roof of a building.

Shaft: An open space throughout the building and used for light, ventilation, elevator or dumbwaiter.

Questions

(To be answered in next issue)

1. (a) About how far from the foot of a wall should a 40-ft. ladder be placed?
   (b) How is the proper distance for all ladders obtained?
2. What is the chief advantage of wire glass over plain glass from a fire protection standpoint?
3. Name one substance which can be used with safety and with effect on a fire burning in a pile of aluminum dust?
4. What is the atmospheric pressure at sea level? Has it any effect on the ability of a pumping engine to raise water by suction.

False and True Questions

(Is each statement false or true? Answers in next issue)

5. T F—Wet sprinkler systems (automatic) are charged with air under pressure.
6. T F—Hose under good pressure is less likely to be damaged by being run over than is hose which has a minimum of pressure within it.
7. T F—Fire streams are sometimes directed against the sides of vessels in order to cool them and to prevent the spread of fire.
8. T F—Gases shipped in cylinders bearing the label "poison gas" are always deadly.
9. T F—Finely cut sawdust may cause a dust explosion.
10. T F—Fires burning among acids are best extinguished by the use of large quantities of water.
11. T F—The function of overhauling is to reduce water and incidental damage after a fire.
12. T F—Ventilation is of no value in preventing explosions at fires.
13. T F—Water used at a fire does no damage to woodwork for all it does is to cause the wood to expand a little.
14. T F—Fires can be carried to greater distances by convection than by radiation.
15. T F—So-called "approved" fire doors and shutters offer a low degree of protection against exposure fires.
16. T F—Friction loss in fire hose is increased by decreasing the size (diameter) of the hose.
17. T F—The principal points governing the effectiveness of outside fire streams are the size of stream and the nozzle pressure.

Completion Statements

18. Siamesing of parallel lines stretched at a fire should be done..... the burning building.
19. When a fire has involved several floors of a building it is best to place the wagon with deck pipe on the.....side of street.
20. The.....floor of a building is considered the highest floor that a street stream can reach effectively.
21. A soda and acid fire extinguisher that is not inverted when using, but that operates by breaking the acid bottle with a screw-plunger, is called the ..... extinguisher.

Answers to Questions in Previous Issue

1. Keep low. Keep together. Be on the alert for open trap doors, or other openings, through which men might fall. If line is being taken in and men are to put it in operation, see that they do not open up the stream until the fire is actually seen. In other words, the stream is not to be directed at either smoke or flame, but, instead, at the fire itself. In the event that lights fail and men lose their way, follow the hose line out.

2. Use the flat side of the axe; stand to one side of the window and strike the pane with the axe. In this way the broken glass is driven inward and the man breaking it is protected against injury. Be sure to use the flat (side of head) of the axe head. With regard to breaking windows, plate glass windows should never be broken unless absolutely necessary. In order to ventilate the ground floor of a building, small windows only should be driven in. The transoms, or small windows, over the plate glass should be opened. They usually provide sufficient ventilation and check damage due to breaking of large plate glass windows.

3. Make sure that the fire has not travelled to other parts of the building through the hot air pipes. Inspection of all these pipes is absolutely essential.

4. No. Time will be lost. It is better to first drain the line.

5. American-LaFrance pumpers usually employ rotary gear pumps, although this company also builds machines with centrifugal and piston pumps as well.

Ahrens-Fox machines are usually equipped with piston pumps, although this company is now building rotary gear and centrifugal pumps also.

Seagrave machines are equipped with centrifugal pumps.

6. Positive displacement pumps are pumps which discharge a definite amount of water per revolution or per stroke (such as piston and rotary gear).

7. The power of the motor. It requires more power to discharge a gallon of water at 200 pounds than it does to discharge a gallon at 120 pounds pressure.

8. True; 9. True; 10. True; 11. False; 12. True; 13. False; 14. False; 16. True; 17. True; 18. False; 19. False; 20. True; 21. True; 22. True.

23. . . . faster . . . slower. . . . 24. . . their streams are good conductors of electricity. 25. . . . 28 per cent. 26. . . . 55 and 65. . . . (Note: Some departments use hose weighing between 56 and 63 pounds per 50-foot section Hose impregnated with preservative weighs more than similar hose not so treated).

Norwood, Mass., will install a new automatic fire alarm system as a PWA project.

The sixtieth anniversary of its founding was observed recently by the Eureka Hook, Ladder and Bucket Company No. 1 of Rockville Centre. The company is the oldest one of the six units of the village, and the fourth oldest of Nassau County.

Fire Apparatus Constructed at Memphis Fire Department Shop

A combination pumper was constructed at the Memphis, Tenn., Fire Department repair shop, under the direction of W. Hume, Master Mechanic. A 1915 fire truck chassis was used. The apparatus carries a 100-gallon booster tank, 750 g.p.m. pump, 1,200 feet of 2½-inch hose, ladders and portable extinguishers. This is the second unit turned out by the shops. A floodlight truck was placed in service in February.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

TESTING BRAKES ON FIRE APPARATUS

PERIODICALLY, drives are conducted by state or local officials regarding the condition of brakes of pleasure and commercial cars. No one disputes that the brakes of these vehicles must always be in good operating condition.

If the brakes on such vehicles must be tested at frequent intervals, it is of greater importance that brakes on fire apparatus are checked periodically. The Fire Department vehicles are given road privileges not accorded to private cars, and then too, the momentum of the truck, due to the weight of the apparatus when fully loaded, makes it very important that the brakes be in perfect condition at all times.

Because of these conditions, many departments have established brake tests that are much more severe than those given to other cars. Department trucks that are sent to the repair shops for attention because of brake trouble are given preference over all other kinds of repairs. Upon the condition of the brakes not only depends the safety of pedestrians and motorists, but the lives of the firemen who are responding with the apparatus to a fire.

In the box on this page is the problem in full that is discussed in this issue. It is a continuation of the discussion that was published in the previous issue. In the box on the following page is the question that will be presented in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 West 40th Street, New York, N. Y.

Discussion of the Question

A. McMarsh, Chief, Columbia, S. C.: The methods we use in determining good brakes so as to avoid serious injuries to life and property are as follows:

Our chief mechanic makes a daily test of brakes by driving our apparatus backwards and forward and stopping. If brakes fail to stop the apparatus as they should, an adjustment is made by our chief mechanic so that they will work satisfactorily.

During the summer the wheels of our apparatus are taken off by our mechanic and the brakes are given a thorough examination. If the brake drums are in bad condition and can be turned down on a lathe by the mechanic so they will work satisfactory, the drums are taken off the wheels and the defect remedied in our machine shop. If new brake drums, brake lining or other parts are needed to put them in first class condition, these parts are ordered and installed at once. We use the best brake lining that can be bought for our machines.

All tests, as mentioned above are made by our chief mechanic. The mechanisms of the brakes are closely watched by our drivers and reports are made by drivers to our chief mechanic, as to the working condition of the brakes after each run. If brakes are not working properly they are made to do so.

Ed. W. Gieselman, Chief, Syracuse, N. Y.: The brakes on our apparatus are inspected in quarters and tested under service conditions on the road.

Road tests are made by Fire Department mechanics and in addition all cars are machine tested at a public station maintained by the local Safety Council, when these stations are in operation. This is done as a further check and as an example to others.

Good condition of brake facings, banks and drums, proper adjustment of bands, clearance, pedals, and levers, and tightness of all pins, linkage, and cables or rods together with proper lubrication are checked when tested. This is comparable to the best truck service requirements.

We are of the opinion that road tests on the level and on hills, together with careful inspections in quarters, is the most satisfactory practice because machine testing will invariably be followed by trial on the road anyway, and a good mechanic can tell by the feel and stopping distance whether the machine is properly under control. Where multiple brakes are in use on the apparatus, machine testing will of course indicate variations in application to the several wheels, but these variations can be distinguished and overcome by careful check-up and testing on the part of a good mechanic without the use of these devices.

W. H. Fuller, Chief, Vicksburg, Miss.: There are no provisions made to determine if the brakes on our fire apparatus are kept in good condition. Tests are made by the mechanic of the department upon complaint by the drivers of the trucks. The Fire Department must have good brakes on the trucks in this city, for we have so many steep grades. I don't believe there is another city in this country where such steep and dangerous grades are as numerous as in our city, and we must therefore at all times keep good brakes on our apparatus. The state does not make any provisions for faulty brakes on automobiles.

I have no inspection requirements, but I have warned every man who operates the trucks, in my department, to make a report to me in person if any truck they drive has faulty or bad brakes, so that the brakes can be put in condition. Failure to carry out this order may cause their dismissal from the department.

I believe every municipality should have an expert mechanic and make it a city ordinance requiring every auto owner to have the brakes tested at least once a month. I believe it would be an excellent move in this city, due to the grades. We have had some very bad accidents here caused by faulty brakes.

Paul P. Heinz, Fire Marshal, New

HERE IS THE PROBLEM

What provisions do you have to determine if the brakes on fire apparatus are in good condition?

Are the tests, if any, made by the Fire Department or representatives of the state?

What are the inspection requirements? Are they comparable or more severe than those required of commercial trucks?

If you do not have any requirements regarding the safety of such brakes, what methods would you suggest to ensure good brakes?

Haven, Conn.: Inspections are made of all apparatus by the Battalion Chiefs twice a week, and the condition of the brakes are reported to the Chief. All matters pertaining to repairs are turned over to the repair shop. As a rule, all drivers of apparatus are first to report faulty brakes.

All tests are made by department mechanics. State inspection requirements are necessary only on registered vehicles. Fire apparatus is not registered and therefore does not come under the inspection requirements.

To insure good brakes, I suggest that all old type apparatus be equipped with a booster-actuated brake; and where possible brake drums and brake bands that are of the small and narrow type be replaced with larger and heavier type to give greater brake surface.

W. B. Parkhill, Chief, St. Augustine, Fla.: The braking system on our trucks are like many other departments, out of date and not up to the present design for brakes on passenger cars and trucks. Frequent tests and examinations are made of our apparatus to determine the condition of brakes.

Tests are usually made by members of the Fire Department and our city mechanic. We have no specified inspection requirements. We have found that by adding a booster to the apparatus equipped with two-wheel brakes, it will more than double the braking efficiency of that type of apparatus. This is especially true when brakes are applied at corners and curves where two hands are needed on the steering wheel.

V. H. Steele, Chief, Billings, Mont.: This city has recently installed a car testing lane in one of the fire stations. Firemen test cars for the entire city.

The requirements for pleasure cars are that they shall be able to stop within 25 feet when going at a speed of twenty miles per hour. This is for cars equipped with four-wheel brakes. For the two-wheel brakes the distance is 37 feet at the same rate of speed.

The above provisions are as set forth in the city ordinances, but they do not give a fair approximation of the condition of the brakes of any car. The machinery for testing measures the poundage pressure for each brake and indicates the reading on suitable gauges visible from the driver's seat. A chart gives the required total poundage of all brakes for any weight of vehicle and provides an easy manner of indicating whether the vehicle can be stopped within the required distance.

The testing machinery also provides for testing lights, wheel alignment, etc., and after passing through our test one has a good idea of the condition of any car. The fire trucks go through the same tests and meet the same conditions as commercial trucks and are not required to do more.

James Black, Chief, Grand Forks, N. D.: Brakes on fire apparatus are given a general inspection quarterly. Between inspections the brake pedal is watched so that it will not be depressed over three-quarters of the way down to foot boards to lock the wheels. At no time is there a minor change made in the brake adjustments, without raising the wheels off of the floor, so as to note if such change has interfered with equality of all brakes. The length of time between relining of brakes depends more on driving conditions than miles traveled. Woven brake lining used on mechanical brakes has a life of about 4 years under ideal conditions, before it has deteriorated to such an extent that it is a strain on the brake mechanism to lock the wheel.

No tests are made other than by the mechanic at the time of making the adjustment. We have no special requirements but to keep the brakes in a dependable working condition.

To insure good brakes at all times brake linings should be checked monthly for deterioration caused by age, damage from friction and thin spots caused from improper adjustment of brake bands. Brake drums should be checked to see if they run true. Rear wheel brakes should be watched for any sign of grease leaking from differential. Apparatus should be put on a brake testing machine when equalizing brakes as it is nearly impossible to adjust properly by feel on heavy apparatus.

T. P. Treadwell, Chief, Fort Collins, Col.: Our apparatus is in charge of our master mechanic. Drivers are required to make out apparatus reports each Saturday. The master mechanic has charge of adjusting of brakes or any other apparatus adjustments.

The city maintains a city brake inspecting machine in the city shops. Our inspection requirements, I believe, are more severe than those required of commercial trucks. After the first of the year I understand, all apparatus tests of brakes will be made with the assistance of State Supervisor of Highway Patrolmen.

The master mechanic is the only one allowed to put a brake sticker on our apparatus. Constant inspection of apparatus and regular systematic records of same, are the methods we believe best to keep emergency equipment in first class condition.

Olander Lind, Chief, Kansas City, Kan.: The brakes on apparatus are tested on dry pavement with the lightest driver on each apparatus applying the brakes.

The tests are made by the Fire Department mechanics, such tests being more severe than commercial trucks. In my own particular department, we have some apparatus with two-wheel brakes and some with four-wheel brakes, but none with booster brakes We adjust the brakes to the satisfaction of the lightest driver on each particular rig, and whenever a new or relief driver is placed on a rig, he takes it out and tests the brakes so that he may familiarize himself with it. All our drivers are taught and understand the danger of wet leaves, grease spots and frosty places on the pavement, regardless of how good their brakes may be.

Howard Travers, Chief, Baltimore, Md.: Periodical inspections are made of brakes and the company commanders held responsible. All tests are made by Fire Department representatives. Such tests are more severe than those required of commercial trucks. Periodical examination by automobile mechanics insure good brakes.

Edward Price, Chief, Flint, Mich.: The brakes on our fire apparatus are tested by our master mechanic once every week.

Wm. L. Ryan, Chief, Dubuque, Iowa.: We have regular inspections to determine if the brakes on our fire apparatus are in good condition. Brake tests are made by the Fire Department, with no state regulations or inspections. There are not special requirements other than those of the fire department.

My suggestion as to a method to be adopted, if not already in force, by the Fire Departments to insure safety of brakes, would be something along the line followed in Dubuque. Dubuque is a city with many steep grades which make the safety of brakes an essential item. We use a monthly inspection form which includes all parts of fire apparatus; in this is included any and all matter pertaining to brakes, such as condition of drums, grease accumulation, condition of lining, equalization, etc. Wheels are removed semi-annually and a thorough inspection made of the brakes. Brakes are relined at an average of once each year. Monthly inspections are made by the department mechanic who is held responsible for the brakes on fire apparatus. The department mechanic is required to inspect the brakes on the city ambulance, which operates out of the Fire Department. We have found that the attention given our brakes has been responsible for preventing many serious accidents.

Clyde Scott, Chief, Provo, Utah: All brakes are tested after each run, also they are inspected each week. We make our own test, although we have a state law requiring inspections by state representatives. We aim to keep our brakes in as good a condition as is mechanically possible.

Older models of trucks which have only two-wheel brakes are equipped with air brakes. These air brakes lock the rear wheels which is about as much as it is possible to do.

V. C. Shepard, Chief, Macon, Ga.: Brakes on fire apparatus are very essential. The only way our brakes are

HERE IS THE PROBLEM FOR THE NEXT ISSUE

What supervision do you maintain over automatic sprinkler systems?

Do you inspect and test them?

Do company officers know location of outside connections; of control valves; of fire pumps; and whether system is supervised by a suitable electric system?

inspected by the department is by having the operator check them and report to the mechanic. In that way our brakes are always in first class working condition.

S. J. Flores, Chief, Shreveport, La.: Brakes on our apparatus are kept in good condition by our mechanic the same as all other parts of the fire apparatus. If brakes are not working correctly the driver reports it to the mechanic who immediately gives them attention.

Wm. J. Mohr, Chief, Santa Monica, Cal.: We have the department mechanic take the apparatus to a recognized brake service station. Tests are made by our mechanic according to information received from the driver. We try and have a more severe test than is required by regular trucks. I would suggest in cities where the department is small that the service of an official concern be secured. This can be done as they are always willing to cooperate. The cost of such service is usually cheaper and more reliable.

My advice is in cities where runs are few to have brakes tested every thirty days, as fluid, plunger, etc., will go wrong standing on the floor.

W. A. Coyle, Master Mechanic, Long Beach, Cal.: Tests on brakes are made by the Maintenance Department. We use proper lining and see that all pins, shackles, bearing and cotter pins are the proper size and fit, and that all movable parts are lubricated to insure quick action on or off. The proper clearance should be allowed to take care of the heat expansion. The brakes in our department are inspected very carefully to make sure that no grease or oil is allowed to get on the lining, due to the use of felts and ball roll grease.

W. P. Weeks, Chief, Battle Creek, Mich.: The small cars in our department are tested by a brake service company. The apparatus is inspected by the mechanical department and the brakes are kept in perfect working order.

George Boughner, Chief, Grand Rapids, Mich.: Brakes receive constant attention by the engineer and also are looked after by the Inspector of Apparatus.

Such inspections should be the same as commercial trucks but should probably receive more frequent inspections. I do not know if we could do different then we are doing—giving close attention and frequent inspection to all fire apparatus.

M. J. Shea, Chief, Fitchburg, Mass.: Due to the fact that all of our runs in this city are on bad grades, we depend on the report of the different drivers as to the condition of the brakes. The master mechanic makes all adjustments and tests, and occasionally the state examiners step in and test the brakes, without any notification. The requirements are the same as for other vehicles on the road.

Our drivers are reliable and always report defective brakes immediately. In this way we are always pretty sure that the brakes are in good condition.

Robert M. Tappin, Chief, Gardner, Mass.: The brakes on our fire apparatus are tested by an approved State Testing Station. The driver of each piece of apparatus reports any defects in brakes or anything else.

Once a year the district representative of the Registrar of Motor Vehicles is permitted to take the fire truck with the regular driver out on the highway and test the truck thoroughly.

The inspection requirements are the same as for the commercial trucks. However, we make them more severe and have the instruments show a better stopping distance.

M. McEachern, Chief, Columbus, Ga.: The brakes on the apparatus in our department are inspected after each run and are kept in first class condition by the department master mechanic. After each run the apparatus is cleaned by the men on duty and examined for anything that may have happened on the run.

James P. Welsh, Chief, Eau Claire, Wis.: Our brakes are checked only by a road test. The Fire Department takes care of this test. There are no compulsory requirements regarding brakes. This department has a first class mechanic who keeps close check on apparatus brakes. Close supervision goes far toward keeping the brakes in good condition.

E. Dahill, Chief, New Bedford, Mass.: The chauffeurs in our department must report defective brakes at once and corrections are made promptly by our repair force. Annual brake tests are made by State Inspectors of Motor Vehicle and certificates given. Inspection requirements are the same as those required for other motor vehicles.

A. R. Derra, Chief, Schenectady, N. Y.: The company captains report the brakes when they are not working properly. Tests on brakes are made by our department mechanic. He checks to see that brakes are in good condition and working properly and safely. A method to insure good brakes is periodical inspections at least once a week and oftener, if necessary.

F. J. Ostertag, Chief, Burlington, Ia.: We do not have any special inspection requirements regarding brakes on our fire apparatus. The truck drivers report poor brakes to the Chief and the brakes are repaired immediately. All drivers are held responsible for the condition and care of their trucks. Fire trucks above all, should have the best of brakes at all times.

Gus Rhem, Chief, Mobile, Ala.: The brake laws in Mobile are very strict. Brakes on fire apparatus are tested after every run by the head mechanic of the Fire Department. Brakes on fire apparatus should be in first class condition, we believe, day and night. The state has a brake inspector, and brakes laws on fire apparatus are more rigid than on commercial trucks, due to the speed permitted when responding to a fire.

Frank Charlesworth, Chief, Providence, R. I.: We have constant examinations by company commanders and chauffeurs of the brakes on apparatus. As in the case of all municipally owned automobiles, no car is allowed to leave a garage with brakes unsatisfactory. This applies with equal force to all fire apparatus. Tests are made by drivers in the presence of the commanders and the tests are more severe than those used for ordinary commercial trucks, for the simple reason that when called out, the apparatus must respond with sufficient speed to enable them to reach the point desired, with the least time consistent with conditions on the streets. Any question as to the ability of the driver to bring apparatus under control or to a complete standstill within the space required by law, results in the piece being sent to the repair shop for inspection and replacement of brakes, if necessary.

E. Kingsley, Chief, Aberdeen, S. D.: Frequent tests are made by our mechanics of the brakes on the fire apparatus, and they are comparable with any other tests.

INDEX TO VOLUME LXXXVIII

The Index to Volume LXXXVIII, FIRE ENGINEERING, from the January to the December, 1935, issues, is now off of the press and will be mailed to readers on request.

Entire Department Fired

While it is discouraging to learn of a Chief being ousted, it is not unusual. However, it is out of the ordinary to have an entire department, Chief and firemen, dismissed.

Following a fire which destroyed two buildings in the business district, the village board of Red Granite, Wis., voted to dismiss Chief Albert Johnson and the entire department, and to reorganize the fire service with younger men. Some of the old firemen will be retained as a nucleus for the new group.

Chief Melvin P. Mitchell has resigned as head of the Fire Department in Hudson, Mass. The town plans to save money by naming a call Chief instead of a permanent one.

I. A. F. C. CONVENTION TO BE HELD AT TORONTO, ONTARIO, JULY 21-24

The Board of Directors of the International Association of Fire Chiefs, now in session in New York City, have decided that the next annual convention of the Association is to be held at the Royal York Hotel, Toronto, Ontario, on July 21 to 24, inclusive.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Determining Proper Nozzle Size

To the Editor:

Will you kindly answer the following questions?

A pumping engine is rated to deliver 750 g.p.m. at 120 pounds net pump pressure. It is operated at a net pump pressure of 117 pounds, supplying two lines of 2½-inch hose, each 300 feet long, with one inch tips. If a third line 550 feet long same size is connected to pumper, what size nozzle would be used to obtain, but not to exceed, the rated capacity of the pump?

In using one method I found the discharge from each line separately and added. Example: E. P. 117 pounds, 300 foot line, 1 inch tip equals 67 pounds nozzle pressure. 240 g.p.m. discharge. Total discharge equals 480 g.p.m. 480 from 750 equals 270 gallons reserve available for third line.

Five-hundred fifty foot, 2½-inch hose calls for 1⅜-inch tip, or a discharge of approximately 235 gallons. 1¼-inch tip with a nozzle pressure of 30 pounds will discharge 250. This added to the 480 makes a total of 730 gallons. This is the best tip that can be used, I think. Anything larger will give a discharge in excess.

My second method is used by the transposition of the discharge formula, after finding nozzle pressure, by deducting friction loss. Assume 270 gallons reserve to be delivered by 550 foot line. The friction loss formula gives a total of 96 pounds for that length of hose. Deduct from 117 pounds engine pressure, will leave available for nozzle pressure 21 pounds.

Now referring to the discharge formula to solve for "d," I find that the diameter of the nozzle will amount to approximately 1.4. The nearest standard nozzle to 1.4 is 1.375, equal to 1⅜-inch nozzle, which is one size larger than obtained in the first solution, and two sizes larger than the table which good practice says must be used, for a 550 foot stretch of hose.

My questions are: first, is such a question practical? Second, which method of solving the questions is correct? Third, if the solution is wrong in both cases, will you please give me your correct solution?

C. S. T.

Answer: I have reviewed your solution to the problem stated, and find that the first solution is correct, that nozzle on 500 foot line of 2½-inch hose should not be larger than 1¼-inch.

While there is a slight difference in the figures you secure for discharge from the 1-inch nozzle, this is not serious.

In securing nozzle pressure on each of the 300 foot lines of 2½-inch hose, we secure 67.7 pounds instead of 67 pounds as indicated in your solution.

With this the nozzle pressure, the discharge from 1 inch is found as follows:

Discharge (in gallons per minute) equals $30 \times d \times d \times p = 30 \times 1 \times 1 \times 8.23 = 246.9$ gallons per minute.

Discharge from a 1-inch nozzle attached to 300 feet of 2½-inch hose, fed by a pump at 117 pounds is given in "Fire Engine Test and Fire Stream Tables," published by the National Board of Fire Underwriters, as 247 gallons per minute which is but one tenth more gallons per minute than found by the solution above.

Two nozzles, according to our calculations, would discharge 493.8 gallons per minute.

If 1⅜-inch tip was used on a third line of hose, 550 feet in length, the nozzle pressure would be 24.1 pounds.

The discharge at a 1⅜-inch nozzle at this pressure would be 277.9 gallons per minute.

Add this flow to the flow from the 1-inch nozzles and we would get 771.7 gallons per minute, which is more than the engine can deliver at 117 pounds.

Thus the next size smaller nozzle would have to be used, namely, 1¼-inch.

Converting Apparatus, etc.

To the Editor:

Our apparatus is equipped with a 600-gallon rotary pump, a 40-gallon chemical tank, two 2½-gallon soda and acid extinguishers, a 2½-gallon Foamite and a 2-quart carbon tetrachloride.

I have been contemplating changing the means of pressure in the 40-gallon tank from chemical (soda and acid) to a hook-up which will use only water under pressure from the pump. By so doing we would avoid the danger of spilling acid on our person when re-charging, damaging household furnishings when using, as well as eliminate the cost of these ingredients. We have a diagram of this change-over, the cost of which would be very nominal.

Will the 40 gallons of water under pump pressure be as effective as 40 gallons of soda and acid solution, or does the chemical reaction help extinguish fire?

Would carbon tetrachloride, if thrown in a stove or furnace or at the base of a chimney, extinguish a chimney fire by the fumes passing through the chimney? If this is correct, it would eliminate the danger of climbing on snow and ice covered roofs.

R. P. F.

Answer: In changing the chemical tanks to booster tanks, employing the apparatus pump, you will be increasing the efficiency of the machine. Water is just as effective as the solution from the soda and acid tank for practically all fires and by the use of the local water supply, such as wells, streams or house taps, you can keep the line in operation continuously. Such is not possible with soda and acid. If the chimney fire is a hot one, tetrachloride could probably be used with good effect; carbon dioxide gas is probably more effective, however.

The only disadvantage of extinguishing such a fire by gas, either carbon tetrachloride or carbon dioxide, is that the unburnt soot remains in the chimney. Such soot may later reignite and you have the trouble all over again.

There are on the market several chimney dry powder extinguishers and which not only extinguish the fire but also destroy the soot as well.

Pump Capacities

To the Editor:

Will you kindly answer the following questions?

A pump will deliver 750 gallons per minute at 100 pounds pump pressure. How many gallons should it deliver at 150 pounds pump pressure when drafting to a height of 10 feet?

Would it make any difference if it was pumping from a hydrant with a flowing pressure of about 60 pounds? Why?

E. R. K

Answer: You ask what a pump rated at 750 gallons per minute at 100 pounds will deliver at 150 pounds, where it is drafting to a height of 10 feet.

If a pump drafts water, this negative

pressure must be taken into account in figuring out what the pump can deliver at the discharge pressure.

Lifting water ten feet is equivalent to pumping against a pressure of 4.34 pounds.

Thus an engine delivering against 150 pounds, and having a suction of ten feet, would actually be pumping against a total of 154.34 pounds.

The usual rule, which is satisfactory for most applications, to find the discharge at any given pump pressure is as follows:

Multiply rated pressure by rated discharge and divide by the pressure at which you desire to find the discharge.

In this case we get 750 x 100 ÷ 154.34 (Or 154 pounds approximately), giving us a discharge of 487 at 154 pounds.

If a pump is aided by hydrant pressure, it should be able to deliver more water.

In the case of a centrifugal pump very little pressure delivered by the hydrant is lost in reaching the pump, so that a pumper which is capable of delivering 750 g.p.m., at 100 pounds pressure, when taking from suction (the lift being negligible), should be able to deliver 750 g.p.m. at 150 pounds pump pressure when operating at a hydrant at which 50 pounds pressure is maintained.

Hydrant pressure also helps piston and rotary pumps, but not to the same degree.

Comparison of Discharges

To the Editor:

A layout of 2½-inch fire hose, say 300 feet, using a ⅞-inch nozzle tip; 60 pounds pressure at hydrant; a layout of 300 feet of 1½-inch hose with two nozzles with ½-inch tip, pressure 60 pounds at hydrant.

What is the difference in the amount of water being delivered on a fire.

Do you consider the use of the leader line, two ½-inch nozzles, equal to one nozzle with ⅞-inch tip or ¾-inch tip?

A. H.

Answer: With a layout of 300 feet of 2½-inch hose using a ⅞-inch nozzle and with 60 pounds pressure at hydrant, we would have a nozzle pressure of 41.4 pounds and a discharge of 146.5 gallons per minute. If 2 parallel lines of 1½-inch hose were laid, each 300 feet in length, and each equipped with a ½-inch nozzle, nozzle pressure at each line would be 37.4 pounds and discharge from each nozzle would be 45.4 gallons per minute, or a total of 90.8 gallons per minute. We get far less water from the two ½-inch nozzles than we do from the single ⅞-inch nozzle.

A ⅞-inch nozzle is nearest in size to two ½-inch nozzles. Two ½-inch nozzles have a total area of .557 square inches. A ⅞-inch nozzle has an area of .601 square inches, and a ¾-inch nozzle has an area of .442 square inches.

It will be noticed, by comparing the above figures, two ½-inch nozzles come nearer to the size of a ⅞-inch nozzle than to a three-quarter inch nozzle.

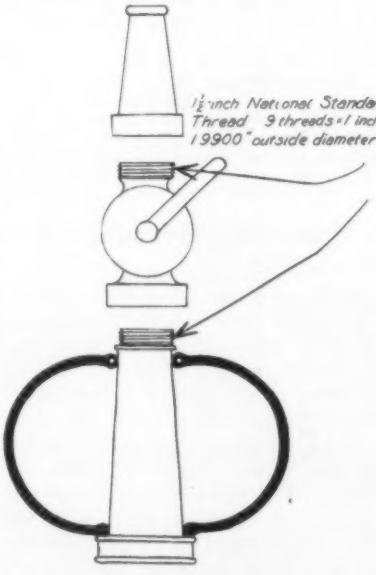
Westchester Chiefs Adopt 1½ Inch Standard Threads

Ventilation and Standard Threads for 1½-Inch Hose were discussed at the regular meeting of the Fire Chiefs' Emergency Plan, which was held at Fire Headquarters, White Plains, N. Y., on the evening of Wednesday, January 15. President Krows presided and the members were welcomed by Chief Abbot Griffen, in the absence through illness of the Fire Commissioner of White Plains. Several amendments to the Constitution and By-Laws of the Plan were adopted. Sympathy for his severe illness was sent to Ex-Chief Towle, of Larchmont, "Father" of the Plan.

The principal speaker of the evening was A. C. Hutson, Assistant Chief Engineer, National Board of Fire Underwriters, whose topic was "Ventilation." Mr. Hutson paid a tribute to Ex-Assistant Chief Dougherty, of New York, who, he said, had done splendid work in his teachings on the subject. Mr. Hutson, however, believed that too much stress had been laid by other instructors on ventilation, and that there was more argument possible on the subject than on almost any other. He pointed out that less than 2 per cent of fires amounted to losses of over $2,000. He referred to the picture on the cover of FIRE ENGINEERING, issue of May, 1935, showing a fire in a Brooklyn, N. Y., warehouse, and asked how such a fire could have been ventilated.

Mr. Hutson then went into the chemical features of combustion, described the action of carbon monoxide and dioxide, which gases he said were heavier than air and would not rise. From this he argued, that, in a slow burning fire, ventilation by opening the roof was futile. In a rapid burning fire, ventilation by an opening at the top of a building was helpful. He pointed out that it was very essential to have streams ready to back up the opening for ventilation.

There was a lively discussion on the address, many of the speakers differing with Mr. Hutson. Those who took part were Chiefs Brennan, Gibson, Wooley, Ex-Chief Mulcahey, Captain Siller, and others.



Parts of Shut-Off Nozzle Affected by Standardization

The second subject was brought out by John W. Van de Water, Deputy Chief, Hastings, N. Y. He urged that the Fire Departments of the county standardize on one type of threads for 1½-inch hose and shut-off nozzles. The same thread should be adopted for all tips. Much study had been given to the matter by the American Standards Association, and the standard thread he advocated had been adopted by it.

The standardization of hose threads is a movement that was started back as early as 1873 by the National Association of Fire Engineers, a forerunner of the International Association of Fire Chiefs. Between 1920 and 1923, a series of conferences were arranged which were attended by representatives of the manufacturers of fire hose couplings, the National Board of Fire Underwriters, the National Screw Thread Commission, and the American Society of Mechanical Engineers. The specifications for 2½-inch hose and larger were adopted as "American Standard" in 1925.

Specifications for hose couplings from ½-inch to 2-inch were prepared by the National Fire Protection Association and adopted in 1922 by a group of insurance interests including the National Board of Fire Underwriters, and the Committee of Manufacturers on Standardization of Fittings and Valves. These standards were only followed to a limited extent.

Following action by the American Society of Mechanical Engineers, a committee was organized in 1928 to prepare specifications for screw threads for small hose couplings from ½-inch to 2-inch in size. These standards were approved by the American Standards Association in July, 1935.

The need and importance of complete standardization of fire hose threads has been felt by Chiefs for many years.

The following resolution, introduced by Chief Van de Water, was read by Chief Wooley and on motion adopted unanimously:

For greater efficiency and simplicity in fighting fires with large and small streams the Westchester Fire Chiefs Emergency Plan in regular session, resolves:

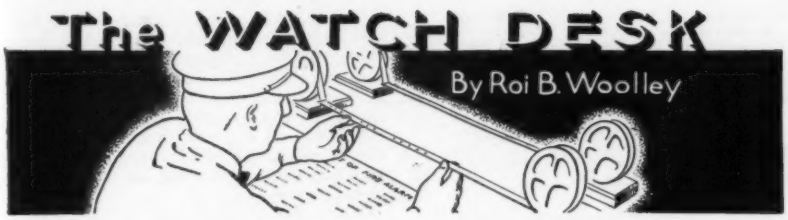
(1) That any fire department introducing 1½" hose in the County of Westchester shall adopt the National Standard thread for 1½" fire hose viz: the male coupling should measure 1.9900" outside diameter and shall have 9 threads to the inch.

(2) That the tops of all shut-off nozzles for both 1½" and 2½" hose shall be threaded for the 1½" N.S. thread. And, furthermore, that when the shut-off is detachable from the playpipe, the male thread of this play pie shall also be 1½" N.S. hose thread with the measurement of 1.9900" and 9 threads to the inch.

(3) These threads should conform in all respects to the specifications for N.S. 1½" fire hose couplings as covered by the A.S.A. (American Standards Association) Bulletin No. B33.1—1935.

(4) That, finally, these resolutions be spread upon the minutes and a copy be sent to the Chiefs of all Fire Departments of this County, as well as to the secretary of the neighboring "Plans."

Refreshments were served by the local department after the meeting.



Our inquiring reporter overhauls the firemanic news of the day.

Latest "Boon-doggle"

According to the Sun Bureau of Nov. 25, "determined to paint something red, the administration will spend $4,640 to repaint the fire trucks in New Britain (Conn.). And it's all on the Federal Treasury, too." Any other F. D.'s in line for lucky "boon-doggling?"

Spanks Out Fire

Leo Ferrante, aged 12, loaded pocket with gum, string, other odds and ends and loose matches. Went to Public School 246 (N. Y. C.). Room was warm, Leo restless. He squirmed, wiggled—ignited matches, rose from seat with look of anguish, clapping hands to his bottom as sudden column of smoke shot up. Teacher, name unknown, rushed down aisle, up-ended Leo and amid cheers of pupils, spanked out blaze. Ambulance attendant treated Leo's hand—and bottom; sent him home.

Elephant Turns in False Alarms

Mebbe 'twas something Patsy, elephant in Prospect Park (Brooklyn) ate. 'Tennyrate she tossed in her sleep. Heaving shook building, agitated fire alarm on wall outside, sending alarm to headquarters. Three engines, two H & L trucks, other equipment answered call. While investigating source of alarm, Patsy again heaved, sent in another call. Firemen chalked up another "unnecessary alarm."

Bucket "Brigade" Guards President

Arrival of President Lebrun of France in London created curious incident. There appeared at French Embassy two Paris firemen rigged out in those shining helmets and brass-bound uniforms that distinguish French fire fighters. They brought with 'em a dozen extra-large fire extinguishers and about twenty red fire buckets, which equipment filled embassy's main corridor and created caustic comment. Firemen patiently explained it wasn't their fault. It was a law that wherever the French President slept outside the Elysee Palace, two firemen with sufficient apparatus should watch over him to see that he wasn't burned to death. "So here we are," sez fire fighters.

1 Fire, 17 Runs, 16 Errors, 1 Out

Twenty persons were attending funeral in Niles when policeman rapped on door and said, "Mrs. Noss's house is on fire." Seventeen persons named Noss rushed out. Sixteen sighed with relief when they found fire was in house of Al Noss. Fire put out—so was Al.

Hot Love!

Harvey Swensen, more ardent than discreet, sued for hand of Miss Florence Swensen who spur-r-ned 'im, for last time. Telephones and letters failing to win her, Swensen's ardor blazed beyond control. He soaked burlap bag with kerosene, put it on sill of Miss Swensen's bedroom, touched it off. Through a watchful milkman, aided by police and firemen, fire was put out. Swensen was found shivering in nearby vacant lot. Swensen's flaming ardor "cooled" in jail, where he was held in $25,000 bail.

The Month's "Tall Story"—Snow-Plow Burns!

It was too hot work for snow plow in town of Brighton (N. Y.). Overheated by continuous bucking of drifts, plow caught fire and was destroyed before crew or firemen could extinguish the blaze. Now *you* tell one!

Saloonkeeper Volunteers

North Haledon's (N. J.) Vol. Co. No. 1 recently became saloonkeepers after making application, and receiving license to sell liquor to public. Bar set up in engine house after D. F. Burnett, State Alcohol Beverage Control Commissioner, was "convinced" that firehouse was community center, sponsoring only "harmless amusements," and that profits from sale of old-fashioneds, pink ladies and applejack highballs would help buy hose, boots, etc., more commonly associated with fire-fighting biz than the brass rail or swizzlestick. Now Haledon's 2,200 residents don't have to travel four miles to Paterson for "fire-water." Neither do Vol's!

Holiday Horrors

Christmas, no less than July 4, claimed its usual victims. Six persons burned to death in New York City, five in fire which started in Christmas trees, and seven were injured. Charles F. Hahn, aged 46 of Teaneck (N. J.) died from Christmas tree fire due to short-circuit in tree light wires. Yetta Hassman, aged 19, nurse in Philadelphia, played Santa; stepped too close to candle; flames caused burns from which she died. These only a few of sad "Yuletide tragedies." In addition four CCC camp officers burned to death near Waterbury (Vt.); a fire-wrecked theatre collapsed on an adjoining hostelry in Hot Springs (Ark.), killing one woman, injuring others. Trapped in burning home in Carmody Hill (Md.), an infant girl was burned to death and four others seriously injured. Children left alone—overheated stove. A $50,000 fire swept a hardware store in Chester (Pa.) destroying thousands of dollars of toys, endangering many buildings. About 45 blazes Christmas day in N. Y. City alone. In Reykjavik (Iceland) four children, two women burned to death when Christmas tree ignited.

How They're Losing Their Lives

Is fire dangerous? Are people careless? Here are a few random flashes culled from the January news:

Trapped when he entered his flaming home to save portrait of dead father, Irvin Slanec, aged 36, perished. His mother, aged 60, and another son Elmer, seriously injured when Elmer toppled from ladder, attempting rescue.

With ice-coated, snow-blocked roads cutting off rescuers, four members of Swopes family of five burned to death in isolated home on South Mountain, (Mo.)

Explosion and fire which wrecked four-story tenement in Buffalo (N. Y.) killed five, injured child seriously. Cause said to be man hunting for gas leak with lighted candle.

Milo F. Miller, aged 28, tried start fire with kerosene. Stove exploded killing him and two daughters, aged 4 and 6. Mother and another child seriously injured. This in Chicago.

Flames partially wrecked Joanna Home for Aged, Cleveland (O.) two men dying from burns, thirteen being rescued. Cause not determined.

Farm home near Carnegie (Okla.) destroyed from defective flue. Six relatives trapped in sleep, two others of thirteen in 4-room home, severely burned.

Three persons, parents and baby, of Culver family, burned to death in Battle Creek (Mich.). Fire attributed to overheated stove.

When five-story Biltmore Hotel burned in Atlantic City with $150,000 loss, George Schiff, aged 35, a deaf-mute, died of burns.

In Washington (D. C.) David Bernard and wife were suffocated when blaze barred stairway. In Patchogue (L. I.) Wm. Webber, aged 2, axphyxiated, when fire started in kitchen. Overheated stove ignited portieres, dropping flaming stuff on youngster. Out in Mojave (Cal.) Lawrence Garaux, wife and child were victims of fire.

Big explosion in basement of Town Hall of Pendleton (Ind.), while Town Board was in session, killed three, injured ten more, ruined town's fire-fighting equipment. Before aid from Anderson, 8 miles distance, arrived hall was destroyed.

His cot set afire by overheated stove, M. Bistriz, aged 77, crippled and nearly blind, burned to death in cellar (Garfield, N. J.). A cat escaped.

WHAT DO YOU KNOW?

The Editor of "The Watch Desk" welcomes contributions from readers of FIRE ENGINEERING that briefly give facts about interesting, odd things that have to do with fires, fire-fighting, etc. Address "Editor, Watch Desk."

WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of January, 1936. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending January 31	Loss in Thousands of Dollars
Pemberville, Ohio—Bldg. of Pemberville Elevator Co. destroyed	65
Tacoma, Wash.—Plant of Waterside Milling Co., and adj. property	200
Ann Arbor, Mich.—New Granada Cafe and adj. property	80
Lancaster, Pa.—Plant of Lancaster Iron Works damaged	80
Rawdon, Que.—Balmoral Hotel destroyed	50
Toledo, Ohio—Dwelling of Gordon M. Mather destroyed	200
Charles City, Iowa—Property occupied by Dr. J. E. Salsbury	50
Hope Valley, R. I.—Saybrooke Woolen Mill destroyed	70
Kemptville, Ont.—High school building destroyed	50
Chehalis, Wash.—Hotel building destroyed	70
Atlantic City, N. J.—Hotel Biltmore destroyed	100
Moundsville, W. Va.—Trimble-Johnson Hardware Co. store	70
Bruceton, Tenn.—Bldg. of United Wholesale Grocery Co.	50
Montreal, Que.—Garage of Philippe Malouin and adj. property	50
Pottstown, Pa.—Storage barn at Four Pines Camp destroyed	50
Elkhart, Ind.—School building destroyed	80
Little Ferry, N. J.—Charlie's Grill, a night club on Main St.	50
Lewiston, Me.—Woolworth store and adj. property	170
Los Angeles, Cal.—Famous Cabinet Mfg. Co. plant	80
Clinton, Ill.—Crang bldg., housing three stores	60
Northville, Mich.—School building destroyed	70
Lawndale, Ill.—Property occupied by Mercantile Motor Sales	80
Orono, Me.—Oak Hall, University of Maine dormitory	70
Toronto, Ont.—Business bldg. at 40-42 Wellington St., East	70
Kansas City, Mo.—Plant of Kansas City Foods, Inc., destroyed	65
Westport, Conn.—Longshore Beach and Country Club destroyed	50
Eldorado Springs, Mo.—Business and apartment property	170
Las Vegas, Nev.—Warehouse district damaged	170
Waterville, Me.—Terminal house of Fairfield & Oakland R. R.	70
Bucyrus, Ohio—Vollrath block, housing opera house	80
Vicksburg, Miss.—Business property at Washington & Crawford Sts.	70
Post, Tex.—Garza County warehouse and adj. property	80
Bloomfield, N. J.—First Baptist Church damaged	50
Pittsburgh, Pa.—Hamburg Bros. store and adj. property	80
Carey's Point, N. J.—Du Pont Country Clubhouse destroyed	80
Houston, Tex.—Globe Box factory destroyed	50
Huntington, W. Va.—Apartment house damaged	125
Staunton, Va.—Warner Bros. theatre damaged	125
Amsterdam, Ohio—Two stores and a beer parlor destroyed	50
Connesut, Ohio—property in business section	50
Port Gibson, Miss.—Claiborne Hardware Co., bldg.	50
Marietta, Ga.—Blair apartments on Atlanta Avenue	65
Weirton, W. Va.—Weirton fire station destroyed	50
Avella, Pa.—Business and apartment property damaged	50
Plant City, Fla.—Plant of Carey Citrus Products Corp., destroyed	80
Edmundston, N. B.—Provincial Government garage destroyed	50
Manchester, N. H.—Exeter Hotel and other property in Green Block	50
Marshfield, Mass.—Factory of Chandler Lobster Pot Co.	50
Milton, Pa.—Business block owned by Piper estate	50
Mechanicsburg, Pa.—Myers furniture store and adj. property	60
Greer, S. C.—Strand theatre and adj. property	70
Union City, Ind.—Three buildings destroyed	150
Ventura, Cal.—Two warehouses and pier property of Ventura Wharf & Whse. Co.	400
St. Mary's W. Va.—Three Second Street business bldgs. destroyed	50
Johnstown, Pa.—Ritz Theatre damaged	50
Curwensville, Pa.—Two blocks of business property	55
Milwaukee, Wis.—Plant of International Printing Ink Co.	170
New Bedford, Mass.—Business bldg. at 240 North Water St.	50
Kankakee, Ill.—Two bldgs. at Watson Company factory	70
St. John, N. B.—Bldg. of Haley Bros., Ltd.	70
Creede, Col—Property in business district	80
Chicago, Ill.—Bldg. occupied by Midland Paper Co., damaged	125
El Dorado Springs, Mo.—Main Street business property	170
Timmings, Ont.—St. Anthony's R. C. Church destroyed	125
Maynard, Mass.—River Co-operative Hall destroyed	50
Walnut Cove, N. C.—Plant of Walnut Cove Veneer Co.	50

Change Fire Apparatus from Chemical to Booster Pump

The Repair Shop of the Pittsburgh, Pa., Fire Department, under the supervision of Superintendent William H. Monahan, has completed work on the last of twenty-two American-LaFrance 750-gallon triple combination pumpers, which are being changed from chemical to that of booster pump fresh water apparatus and the replacing of the old style solid tire running gear with new wheels, mounted with pneumatic tires, 38 X 7 inches on the front wheels and 40 X 8 inches on the rear wheels.

In connection with this work, each of the twenty-two pumpers has been given a general overhauling and practically rebuilt. The chemical hose reel or basket located on top of the hose body has been replaced by a hose box, built beneath the rear end of the hose body and into the rear foot board, which improves the general appearance of the apparatus to a great extent and at the same time gives the firemen much more room to work in loading the hose on the apparatus.

With the installation of the fresh water system, the familiar hand rail on the top of the hose body, which is nickel plated brass pipe, is used as the supply pipe between the fresh water tank located on the front of the hose body and the hose connection at the rear end of the apparatus.

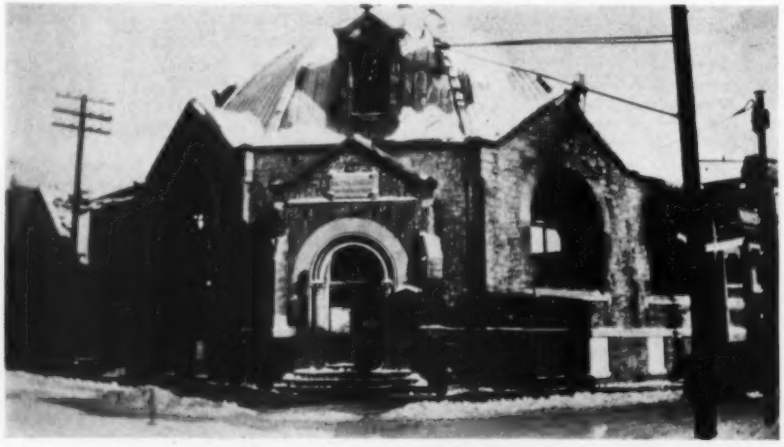
The regulation hard rubber chemical hose is being replaced on each of the pumpers with ¾-inch cotton rubber lined hose, which takes up less room in the hose box and is much more easy to handle.

With the installation of the new wheels and pneumatic tires, new brake drums and brake rigging castings were required on each of the pumpers, as well as new fittings and valves between the pump and fresh water tank, each of which holds forty gallons of water.

As the mechanical work was completed, each of the pumpers were sent to the Fire Department paint shop and repainted, redecorated and varnished, making them look like new apparatus just out of the factory.

The approximate cost of the work on each apparatus, including labor, new wheels and tires, castings and material was about $800 each. The yearly saving to the city in the purchase of soda and acid for chemical tanks will be considerable, while the destruction and damage to household goods, clothing, etc., by the chemical solution will practically be eliminated. Each of the changed over pumpers will continue to carry one regulation soda and acid hand extinguisher and one foamite extinguisher.

All other combination pumpers in the department will gradually be changed

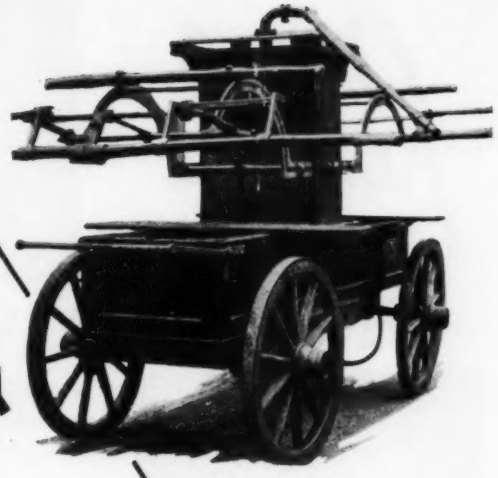


Philadelphia Church Razed by Two-Alarm Fire

A two-alarm fire razed the Bethlehem Baptist Church in Philadelphia, Pa., erected in 1895. Only the huge copper dome and stone walls are left. The first alarm was sounded at 2:58 p.m. and the second at 3:07. Firemen were hampered by cold, snow and ice. Members of the Second Alarmers served coffee to the firemen. Three other extra alarm fires were reported in the city during the same week.

E. H. SPRANGERS

Dear Chief—
You wouldn't take this antiquated hand Engine to a Fire—would You? But—



IS THE APPARATUS YOU ARE SENDING IN TODAY EFFECTIVE ON EVERY TYPE OF FIRE?

Can your first alarm companies handle electrical fires without transmitting a signal for special apparatus? Can they handle fires in grease, paint, oil, gasoline, alcohol and lacquers?

Take this Very Seriously

Be Completely Prepared!

It is now possible for you to secure apparatus that will effectively handle ANY type of fire when you roll in. The famous "GARRISON DRY METHOD OF FIRE EXTINGUISHMENT" which has for years subdued fires not easily handled by any other medium is now available in COMPLETE MOTOR FIRE APPARATUS as well as in form for your present apparatus. Years of careful research and the new and enlarged Garrison plant has made possible the World's Most Effective and Complete Line of Motor Fire Apparatus — PUMPING ENGINES (ALL CAPACITIES); HOSE CARS; LADDER TRUCKS; FLOOD LIGHTING APPARATUS; EMERGENCY AND AIRPORT CRASH APPARATUS; — all engineered in accordance with the latest and most modern practice in automotive design and with important features found in no other unit.

A Complete Fire Control Service

The Garrison line includes styles and types of fire control appliances for every requirement in the home, office or in the largest industrial plant. All employ "GARRISON DRY METHOD OF FIRE EXTINGUISHMENT" —the DRY compound which will not freeze, corrode or deteriorate. Harms NOTHING BUT FIRE.

Write for our

latest brochure "The Modern Method of Fire Extinguishment."

GARRISON ENGINEERING CORPORATION

Factories and Executive Offices

GREAT BARRINGTON, MASS.

Offices and Distributors in all Principal Cities

Republic FIRE HOSE... ALWAYS READY FOR USE

★ Year after year these five grades of Republic Fire Hose maintain their reputation as long-lasting, dependable weapons for fire fighting.

They are exceptionally strong and flexible—easy to handle, readily coiled and compactly stored. Their construction practically eliminates stretch or warpage in use. Jackets are designed to resist high pressure and hard wear, and give greatest protection to the tube. Tubes have a smooth interior surface and are built up with multiple plies of a scientific rubber compound of remarkable aging qualities to assure long life and freedom from leakage.

Made with single or double jackets, wax treated if desired. Republic also manufactures Fire Engine Suction Hose, Chemical Hose, Street Washing Hose and Rubber Covered Fire Hose. Ask for descriptive literature.

THE REPUBLIC RUBBER CO.
YOUNGSTOWN, OHIO

WHEN YOU BUY A FIREMAN'S COAT BE SURE TO BUY ONE THAT WILL

Wear Well — Look Good — Be Absolutely Waterproof, Soft and Flexible — and Can Be Quickly Fastened or Unfastened with One Hand.

MIDWESTERN
FIREMEN'S COAT

is the best coat you can buy at any price!

Made of VANITEX, a waterproof, durable, pliable material, manufactured exclusively for MIDWESTERN. It is mold proof, soft and flexible. There is no better LOOKING or longer WEARING coat made! And the MIDWESTERN is the ONLY firemen's coat equipped with the FAMOUS SAFETY SNAP that can be fastened or unfastened with one hand in a jiffy. The FAMOUS SAFETY SNAP will not catch on clothing.

BEWARE
OF CHEAP IMITATIONS
Look for the double eagle label on the coat you buy.

Write for our Free Illustrated Catalog showing complete line of our rubber and canvas garments. Satisfaction Guaranteed.

U. S. Pat. No. 1944475 — Canadian Pat. No. 345601

MIDWESTERN MANUFACTURING COMPANY
MACKINAW, ILLINOIS
Manufacturers of a Complete Line of Quality Firemen's Clothing

AFTER all, a good badge is a sensible investment. Not everyone can wear a fireman's emblem of service. You men who have devoted your lives to saving life and property should be proud of your badge.

You will be if you wear a BRAXMAR BADGE. Over fifty-five years of experience goes into every badge you buy.

Catalog on request.

C. G. BRAXMAR CO., 242 West 55th Street, New York

BRAXMAR BADGES
Standard for Over Fifty Years

from chemical apparatus to fresh water apparatus, as money is provided for the work.

In addition to the changing of the twenty-two triple combination pumpers, two American-LaFrance combination hose and chemical wagons, each equipped with a Morse monitor turrett nozzle are being overhauled, and equipped with new wheels, mounted with 38 x 7-inch pneumatic tires, and repainted and varnished.

These two wagons are to be placed in service in the high value business and manufacturing districts.

WILLIAM E. PATTERSON.

Among the Buffs

This is the first appearance of a new department, which FIRE ENGINEERING *hopes will become a regular feature. Secretares of various fire buff associations are urged to send news regarding their respective organizations.*

Box 12 Associates Host to Two Clubs

Two visiting buff clubs were honored by Box 12 Associates, Detroit, Mich., at a dinner held on January 11, at the Book-Cadillac Hotel. The visiting clubs were Box 7 Association, of Dayton, Ohio, and Box 14 Club, of Jackson, Mich.

The guests included Police Commissioner, Brigadier General H. A. Pickert, and Police Superintendent John P. Smith, Detroit; Fire Commissioners C. Hayward Murphy and Arthur W. Winter, Detroit; Robert C. Anderson, Walter K. Bayley, Richard S. Fowler, R. Thurston Houk, Charles A. Miller, Chief W. W. McFadden, Police Chief Rudolph Wurstner and City Manager Fred Eichelberger of the Box 7 Association, Dayton, Ohio. Also Hugh T. Smith, Walter Mayer, Dave W. Kendall, Kenneth Sagendorph, John Way and A. Ismon of the Box 14 Club, Jackson, Mich.

In all, forty persons were present and according to Paxton Mendelssohn, a leading light of Box 12 Associates, "We had a wow of a time."

The table decorations included beautifully polished nozzles complete with playpipes into which flowers were placed.

Police Commissioner Pickert of Detroit made the speech of the evening.

Box 35 Associates, Minneapolis

At a meeting of the Box 35 Associates, Minneapolis, talks on fire alarm systems and first aid fire fighting methods and equipment were given by Chief Jerry and Deputy Chief Anderson of the club.

Mansfield Speaks Before Box 52

George O. Mansfield, Chief Fire Inspector, Fire Marshal's Division of the Massachusetts Department of Public Safety, was the speaker at the meeting of the Box 52 Association, Inc., Boston, Mass., which was held in the Chamber of Commerce Building, Boston, on the evening of January 15.

He described the work of detecting and prosecuting arson cases and showed many lantern slide views of firebug setups and trailers placed in buildings which were to be set on fire to collect insurance. The clues by which arrests were made were told in detail by Mr. Mansfield, who has been instrumental in reducing the number of arson fires in Massachusetts.

President P. Hildreth Parker, Belmont, Mass., directed the meeting, assisted by Secretary C. Elmer Gane. Harry Belknap presented the association with a section of an old wooden water main taken from an excavation on East Street, in Boston.

Among those at the meeting were Alfred L. Miner, Vice-President, Massachusetts Safety Council; Deputy Chief William F. Quigley, Boston Fire Department, and Deputy Chief Arthur Marshall, Cambridge, Fire Department.

New Clubs

Box 12 Club was recently formed at Springfield, Ohio.

J. K. Lee, fire fan of Toronto, Ont., is laying the ground work for a box association which it is hoped will be of assistance to the Canadian department.

Chief Rector, Grosse Pointe Park, Mich., is endeavoring to organize a club in this suburb of Detroit.

Rankin, Hero of Equitable Fire, Dead

Charles W. Rankin, Acting Deputy Chief of the New York Fire Department, and widely known for his rescue attempts at the fire in the Equitable Building, New York City, in 1912, died at his home in Brooklyn, at the age of sixty-four. He had been on sick leave for two weeks. Chief Rankin was in charge of the Marine Division.

He was appointed fireman on March 8, 1901. When Chief Kenlon succeeded Chief Croker as department head in 1911, he was driver for Chief Kenlon. At the $18,000,000 Equitable Building fire he risked his life many times trying to save three firemen who were trapped on the roof. He was awarded a Class 1 Medal, and was promoted to Lieutenant for his work at this historical fire.

Chief Rankin also was awarded the Crimmins Medal for heroism in 1913, a Class 2 medal in 1916, and a similar award the following year. He was also given the administration award for improving the efficiency of his command.

On November 2, 1913, he was promoted to Captain; Acting Battalion Chief, May 16, 1914; Battalion Cief, May 16, 1925; Acting Deputy Chief, March, 1928. He succeeded Chief McElligott as head of the Marine Division in March, 1932.

He is survived by his widow, ten children, and eight grandchildren.

Deputy Chief John Spencer, in charge of the Staten Island area, headed a contingent of 250 firemen and ranking officials of the department. In the procession that marched from the home of the late officer to the Church of the Little Flower of Jesus, were the following:

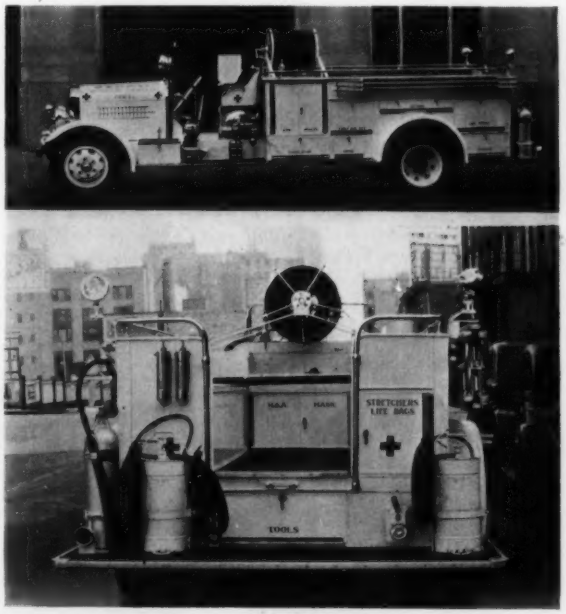
Fire Commissioner John J. McElligott; the three chaplains of the department, Rev. Joseph H. Ivie, Protestant; Rev. Edward Lissman, Jewish, and the Rev. Merritt E. Yeager, Roman Catholic; a delegation of forty members of the Cycle Club, of which Chief Rankin had been a member for twenty-five years; Deputy Chief John J. T. Waldron; a contingent of the New York Fire Patrol, led by Superintendent Thomas S. Shannon; Deputy Chief Edward J. Worth, retired, who preceded Chief Rankin as head of the Marine Division; Honorary Deputty Chief M. F. Loughman; Acting Deputy Chief Walter J. O'Leary; Assistant Chief Patrick Walsh; Deputy Chief John Davin, and Deputy Chiefs James W. Heffernan and Ferdinand Butenschoen.

Burial was in Mount St. Mary's Cemetery, Flushing, Queens.

Sutherland, Ia., voted to purchase Luverne fire apparatus.

A 500-gallon pumper has been delivered to Preston, Minn.

Fire destroyed the plant of the Howe Fire Apparatus Company in the suburb of North Anderswon, Ind. Temporary quarters have been arranged.



Rescue and Squad Car Recently Delivered to St. Paul

A Pirsch rescue and squad car was recently delivered to St. Paul, Minn. The two photographs show the side and rear views of the car which is fitted with the essential tools and appliances.

Re-elects Chief Charlesworth

The final 1935 meeting of the Fire Chiefs' Club of Rhode Island was held at Providence on December 12. Chief Frank Charlesworth, Providence, presided.

A talk on "Lubrication of Motor Fire Apparatus and Other Types of Motor Cars," was given by Col. P. Allan Peck, Consulting Engineer, Petroleum Products Company. James L. O'Neill, of the Providence Tercentenary Committee, outlined the part that the firemen will be expected to take in the celebration next year. Musical entertainment was supplied by the Pawtucket Boys' Club Harmonica Band.

Chief Frank Charlesworth, Providence, R. I., was re-elected President of the Fire Chiefs' Club of Rhode Island for the ninth term, at a meeting held in Providence on January 9.

All the other officers were re-elected and include Chief A. J. Cote, Woonsocket, First Vice-President; Chief Elmer R. Capwell, Anthony, Second Vice-President; Ex-Chief A. Robert Black, North Providence, Secretary; Ex-Chief Arthur Billinge, Norwood, Treasurer.

The speakers were Percy Bugbee, Sandy Chapman, and Thomas H. Roberts, Chairman, Providence Bureau of Police and Fire, and Charles Heustis.

The club voted to assist the Providence Veteran Firemen's Association in the firemen's pageant of the Providence Tercentenary celebration this year.

The organization now has a membership of 231. The annual banquet and installation of officers will take place in February.

A. Robert Black

12c Per Capita Loss

With a population of 3,000, Florence, Col., has succeeded in bringing down its fire loss to $360 for 1935, or a per capita charge of twelve cents. In 1934, the fire loss was $1,915, or a per capita loss of sixty-four cents. The most serious fire last year caused a damage of $100.

Stanley L. Payne.

Garrison Organizes Motor Fire Apparatus Division

A Motor Fire Apparatus Division has been formed by the Garrison Engineering Corporation of Great Barrington, Mass. The company started nine years ago as the Garrison Fire Detecting System, Inc., and confined its selling program to the eastern seaboard from New York to Washington.

It acquired the American and foreign license in 1933 for the manufacture and sales of the DuGas method of fire extinguishment.

Last year the company purchased the Stanley Plant in Great Barrington, Mass., which covers 3.5 acres and has 65,000 square feet of floor space. The last six months have been devoted to the organization of the new division, which will construct pumping engines of all types on commercial chasses, and standard apparatus will be built on a chassis designed by the company. Garrison-Waterous pumps of all capacities, both rotary and centrifugal, will be used.

The DuGas dry method of fire extinguishment is now known as the Garrison dry method of fire extinguishment. It has been approved by the laboratories of the National Board of Fire Underwriters, and similar organizations. The extinguishing agent is said to smother and cool a fire, and have a good record with grease, paint, gasoline and lacquer fires.

New York Orders Eight Thawing Trucks

The New York Fire Department will shortly receive eight thawing trucks to augment five others which have been in use on frozen hydrants for the past two years. The new trucks, which will cost $1,589 each, are supplied by the General Motors Truck Company. They will thaw a frozen hydrant in two minutes, depending on the amount of ice.

The chasses are Model T-16, one and a half ton; 131-inch wheel base trucks, with 6.00/20 dual tires on disc wheels, hydraulic brakes, standard cab, shatterproof glass and shock absorbers. The unit is rated at 10,000 pounds gross carrying capacity and is equipped with 213 cu. in. engine developing 84 h.p. at 3,500 r.p.m.

The bodies are of all-steel construction and entirely closed with doors at the rear. Ventilating louvres are furnished for the oil burner equipment. The motor thawing devices are furnished by the Bryan Steam Corporation of Peru, Ind. These units consist of a down-draft oil burner and a steam boiler. A connection is introduced from the exhaust of the truck engine into the oil burner to provide a draft for the burner when the operation is started. After steam is generated, which usually requires about fifteen minutes, the truck engine exhaust is cut out and a steam jet from the boiler is used to provide the draft. The unit will generate steam at 60 pounds pressure and will constantly deliver at this pressure at least 90 pounds of superheated steam per hour. The steam is superheated to 325 to 350 degrees Fahrenheit. After cutting out the truck exhaust, and the introduction of the steam jet, the unit will then charge automatically until such time as it is shut down. The oil feed and the steam jet are cut out automatically when the pressure is in excess of requirements, and a pilot light only is burned at this time. When the pressure falls below 60 pounds, the unit goes into full operation automatically.

The thawing trucks, now in use by the N. Y. F. D., are operated with cangas, such as pyrofax. The new units will be the first with oil burners.

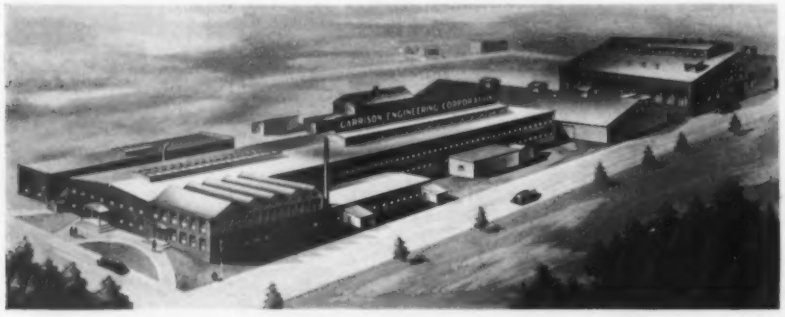
Wm. Jerome Daly.

Parrish Chief of San Diego

John E. Parrish, formerly Assistant Chief of the San Diego, Cal., Fire Department, has been advanced to head of the department to fill the vacancy caused by the retirement of Chief Louis Almgren, who was Chief from 1909.

Chief J. E. Parrish

Chief Parrish entered the department on November 29, 1905. He was promoted to Captain on May, 1909; Assistant Chief on March 9, 1912; Chief on November 1, 1935.



Plant of the Garrison Engineering Corporation at Great Barrington, Mass.

A 750-gallon pumper has been delivered to Plymouth, Wis.

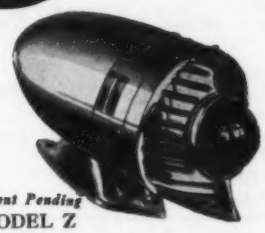
A new fire house has been opened for the Beaverdale Fire Company at Mt. Carmel, Pa.

Guy Miltimore, for six years Assistant Chief of Burbank, Cal., has been promoted to Chief of Department.

Pelham Manor, N. Y., is contemplating the construction of an addition to its fire house to cost $17,860. If approved, it will be carried out as a WPA project.

Police of Delaware, Ohio, are investigating a false alarm which came from a fraternity house. One fireman was injured while riding to the fire, and the apparatus was wrecked when it crashed into an automobile.

NOW YOU CAN HEAR AND SEE THE 2 NEW TRAFFIC-MASTER FEDERAL SIRENS



Patent Pending
MODEL Z

● Two *NEW* Streamlined 1936 versions of the Federal TRAFFIC-MASTER Sirens, embodying 2 revolutionary features.

(1) *AUDIBILITY* by the shrill command of a new tone roar that will be heard above all other traffic noises.

(2) *VISIBILITY* by a FLASHING Red penetrating light that goes on and off attracting all by sight for blocks ahead.

Synchronized sound and light symmetrically balanced with the latest streamlined design. LIGHTS can be operated simultaneously with Siren roar or independently on separate circuit—flashing on and off as long as vehicle is in motion. Fully Chrome-plated. Built to Precision Standards. Grease-sealed. Ball Bearings. Economical.

TRAFFICMASTER
Patent Pending
MODEL W

Write for 30 DAY FREE TRIAL OFFER!

ADVANTAGES OF THE DOUBLE PURPOSE SIRENS

1. Shows clearly the pathway of on coming emergency vehicle. Gives greater safety to drivers of emergency vehicles.
2. Motorists in closed cars can readily see the approaching apparatus by light.
3. Saves twice as much time because they clear the way faster and guarantee quicker trips. Saves lives and valuable property.
4. Low current consumption—easy on battery. Sturdily constructed to withstand all outward abuse.
5. Quick action. No lost motion. Speed accelerates from zero to 6000 R.P.M. in two seconds.

Write today for Bulletin 52

FEDERAL ELECTRIC COMPANY

SIGNAL DIVISION - 8702 SOUTH STATE STREET - CHICAGO, ILLINOIS

NON-LEAK Shut-off Nozzles

● There are positive reasons why Buckeye Shut-off Nozzles *will not leak;* (1) the distinctive new design; (2) the high-grade workmanship. If you could take apart one of these nozzles, you would convince yourself of the reasons why they *will not leak*. Protect yourself with this non-leak construction. Buckeye Nozzles will not open or close under pressure when valve is partially shut down — yet shut-off works easily. The adjustment is simple. The working parts are accessible. The nozzles throw a smooth water stream. Nozzles and all integral parts bear the Buckeye unconditional guarantee.

Buckeye offers *THE* value in Shut-off Nozzle equipment. Send the coupon below for full information.

BUCKEYE
Shut-off Nozzles · Roto-Rays · Whistles

BUCKEYE IRON & BRASS WORKS
324 East Third St., Dayton, Ohio

Please send me descriptive folder on your new line of Shut-off Nozzles.

Name .....

Street .....

City & State .....

Some Fires Must Be Smothered

When Oil Is Involved — *On Electrical Equipment*

The Modern Fire Engine Is LUX-Equipped

DID YOU KNOW THAT—

Carbon dioxide is the fastest extinguishing agent known to man? Fire chiefs everywhere endorse it for *all* flammable liquid and electrical fires. A 15% concentration of carbon dioxide snow-and-gas makes fire impossible—snuffing out the blaze instantly—leaving no mess and harming neither men nor materials.

AND THAT—

90% of all carbon-dioxide extinguishers carry the LUX trademark. Every important development of carbon dioxide equipment and technique has been accomplished by LUX engineers. So remember—when you hear firemen praising carbon-dioxide fire extinguishers, the odds are 10 to 1 they mean the leader—LUX.

LUX extinguishers require no recharging until used. In fact one economical fire company extinguished 9 *different blazes* with a LUX model 15 over a 3-month period *without recharging* it. (We don't recommend this practice, but the facts are significant.) Call your nearest representative for further information or a demonstration of the effectiveness of LUX in smothering fire.

Walter Kidde & Company
110 West St., Bloomfield, N.J.

Service and Sales offices in all Principal Cities

LUX

For All Electrical and Flammable Liquid Fires

HEWITT-GUTTA PERCHA
FIRE HOSE

A complete line, including
Wax Treated - Solid Multiple Woven
AND
Single and Double Jacket Hose

Manufactured by
HEWITT RUBBER CORPORATION
BUFFALO, N. Y.
"Territories Available"

WATEROUS FIRE PUMPS

CENTRIFUGAL - ROTARY

Waterous Dependable

WATEROUS COMPANY
ST. PAUL, MINN.
Established 1886

FIRE PUMPS HALE CONSHOHOCKEN PA

Anyone who sacrifices quality for price in a fire pump should be rated as a public enemy.

HALE FIRE PUMP CO., Inc.
CONSHOHOCKEN, PA.

NORTHERN PUMP COMPANY
ESTABLISHED 1907
MINNEAPOLIS, MINN.

PORTABLE PUMP TANKS PROVE VALUE AT CERTAIN TYPE FIRES

Considered Best Solution for Grass Fires and Any Blaze That Would Normally be Extinguished Effectively by a Chemical Stream

By Joseph N. Sullivan
Chief of Fire Department, Utica, N. Y.

WHILE it is essential that every Fire Department have apparatus capable of pumping large volumes of water, even to the tremendous throwing power of the water tower, it is also essential that some equipment be on hand for incipient fires that can easily be handled, when a Department is trained to handle them properly and with a minimum of effort.

We have found that the portable pack-back fire pump of 5-gallon capacity, which may be carried on the back or in either hand as desired, with an ample supply of water and a strong stream or spray, is a conqueror of grass fires, rubbish fires, awning fires and almost any fire that a chemical stream will extinguish. It does away with the necessity of dragging hose, and is the solution to many awkward situations with which Fire Departments are confronted.

Our companies use the Smith Indian Fire Pump in their routine work and almost every day they report a new use for this handy equipment. On one occasion a number of awnings on a tall apartment house were on fire, and while the building was of brick and the fire was confined to the awnings, time would be lost while the hose was moved from window to window to find the most suitable position. One of the men seized the Indian pump and in a few minutes all awnings were out.

We regard this same pump extinguisher as the best solution to the grass fire problem. Brooms and occasionally a hose line are good for supplementary purposes, but the fires usually respond to the fire pump, and a hard job is done easily and with a saving in time for men and apparatus.

In our everyday work we find the Indian Fire Pump indispensable and have no hesitation in recommending it for Fire Departments or for ordinary protective purposes.

Fire Department Tests Brakes for Motorists

A safety clinic has been installed at Fire Station No. 1, Billings, Mont., where members of the department inspect automobiles.

The city, which has a population of more than 16,000 persons and an automobile registration of 6,500, passed an ordinance which requires three yearly inspections of the safety factors of all cars. These inspections are made by the sixteen firemen in the course of their regular shifts.

Requirements for pleasure cars are that they shall be able to stop within twenty-five feet when going at a speed of twenty miles an hour. This is for cars with four-wheel brakes. For those with two-wheel brakes, the distance is thirty-seven feet for the same speed.

Machinery for testing measures the pounds pressure for each brake and indicates the reading on suitable gauges which are visable from the driver's seat. A chart gives the required total pounds for all brakes for any weight of car, and provides an easy manner of indicating whether the vehicle can be stopped within the required distance.

The testing machinery also checks up on wheel alignments, lights, etc. After a car has been examined by the Fire Department, the owner has a good idea of its condition.

Fire apparatus go through the same test and meet the conditions required for commercial vehicles.

Chief V. H. Steele is very enthusiastic regarding the good results achieved.

Fire Claims Fire House

Fire destroyed the combined fire and police station of Weirton, Ohio, during sub-zero weather, and caused a loss of $19,000. While workers succeeded in removing a new pumper, fire spread so rapidly that 1,600 feet of hose and a smaller piece of apparatus were destroyed. Fire was discovered at 12:30 a. m.

Aid was rushed from Holidays Cove and Steubenville. Several firemen were treated for frostbite.

Southern California Chiefs Meet

Chief James H. Douglass of Huntington Park, Cal., was elected President of the Southern California Fire Chiefs' Association at a meeting held at Huntington Park on January 25. About two hundred persons attended.

Talks were given by Mayor Harold E. Pomeroy, South Gate; Chief Charles J. Brennan, San Francisco, President, International Association of Fire Chiefs; Chief Canfield, Beverly Hills; Ralph J. Scott, Fire Marshal; Chief Tom Cuff, Menlo Park.

Frank McGinley, Superintendent of Fire Alarm, Los Angeles, explained the box operations of his city and he urged the installation of boxes in all cities to complete fire alarm system.

The other officers elected are Chief David F. Glines, South Gate, Vice-President, and Chief A. H. Lankfort, Glendale, Secretary-Treasurer.

The next meetitng will be held at Santa Monica in September in connection with the California League of Municipalities.

A new fire house is to be built in Orange, Mass., as a federal project at a cost of $28,000.

Robert H. Love has been appointed Chief of the newly organized Fire Department at Monroe, Mass.

Riverside, Cal., may erect a fire station in the University Heights district of the city.

A Citizens Survey Committee of Toledo, Ohio, has recommended a 24-hour day for the firemen, and a definite program for replacement of equipment.

Police of Delaware, Ohio, are investigating a false alarm which came from a fraternity house. One fireman was injured while riding to the fire, and the apparatus was wrecked when it crashed into an automobile.

Hydrant caps, according to regulations issued to Captains by the New York Fire Department, must not be put on immediately after the water has been shut off unless the cap has a drain hole. This rule is to permit the hydrant to drain properly and to prevent the cap from freezing to the hydrant in cold weather.

The Town Saved on the Purchase of Fire Hose

There are six desolate ruins of business buildings in Eldorado Springs, Mo., monuments to the fact that the local officials saved the community money. The Fire Department, in general, was short of fire hose, and when hose became old, it was not replaced. When fire broke out in a two-story building at 4 a.m. on January 19, a high north wind carried the fire to five other two-story buildings. Although the pumper functioned well, sections of hose burst, and cut down on the existing meagre supply. Neighboring communities were many miles away, and they, too, had little reserve equipment to aid the stricken community.

HAROLD T. WHITNEY.

Manufacturers' Announcements

G. L. Smith Promoted

G. L. Smith has been promoted to Assistant Sales Manager by the Republic Rubber Company, Youngstown, Ohio.

He has been with the company for thirteen years. He joined the sales force

G. L. Smith

on January 1, 1923, as salesman in eastern and northern New York. This territory was gradually enlarged to include all of New England and the New York metropolitan area.

Mr. Smith, according to the company, has placed more accounts on the books, than any other field man of the Republic organization.

Lightweight Breathing Apparatus

An illustrated folder has been issued by the Mine Safety Appliances Com-

New MSA Breathing Apparatus

pany, Pittsburgh, Pa., to describe the MSA lightweight half-hour oxygen breathing apparatus.

The weight of this unit has been reduced to 13¼ pounds, and is smaller and more compact in size. It has fewer parts and less points at which leakage would be possible. There are a number of other improvements in design.

Two Canadian Companies Unite

Seagrave Fire Engines, Limited, of St. Catherines, Ont., the Canadian subsidiary of the Seagrave Corporation, Columbus, Ohio, has acquired an interest in Bickle Fire Engines, Limited, of Woodstock, Ont., Canada's oldest builder of fire engines.

The new firm will be known as Bickle-Seagrave, Limited. The factory and general offices will be at Woodstock, Ont.

New Type Siren

A streamlined traffic siren, which, in addition to producing a shrill, penetrating warning sound, has a bright red warning light, is being marketed by the Federal Electric Company, 8700 South State Street, Chicago, Ill. The light warning, it is said, will prove of value to motorists of closed sedans who claim they never hear siren sounds. The light can be operated together with the siren

Streamlined Model Without Light

or independently on a separate circuit, which flashes the light as long as the car is in motion. A special illustrated folder has been issued.

CONVENTION DATES

Feb. 10—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Directors' Meeting, Hotel Roosevelt, Madison Ave. and 45th St., New York City.

Feb. 27—FAIRFIELD COUNTY FIRE CHIEFS EMERGENCY PLAN. Regular Meeting, Town Hall, Newton, Conn. Secretary, Lieut. John Moehring, Toms Road, Stamford, Conn.

March 7—MID-HUDSON HARLEM VALLEY FIRE CHIEFS' ASSOCIATION. Regular Meeting, Millerton, N. Y. Secretary, Chief Henry F. Drake, Clinton Corners, N. Y.

May 4-5—SOUTHEASTERN ASSOCIATION OF FIRE CHIEFS. 9th Annual Convention, Atlanta, Ga. Secretary-Treasurer, Chief R. S. Baughan, Fire Department, Norfolk, Va.

May 6-8—GEORGIA STATE FIRE COLLEGE. Annual Fire College, Atlanta, Ga. Director, Harry Phillips, Assistant Fire Marshal, Dept. of Fire, 166 Alabama St., S.W., Atlanta, Ga.

May 11-15—NATIONAL FIRE PROTECTION ASSOCIATION. 40th Annual Meeting, Atlantic City, N. J. Secretary-Treasurer and Managing Director, Franklin H. Wentworth, 60 Batterymarch St., Boston, Mass.

May 26-29—IOWA FIRE SCHOOL. 12th Annual School, Ames, Ia. Director, Lindon J. Murphy, Municipal Engineer, Iowa State College, Ames.

May 27—IOWA STATE FIRE CHIEFS' ASSOCIATION. Annual Convention, Ames, Ia. Secretary-Treasurer, Chief L. R. Morris, Ames.

June—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 31st Annual Convention, Camden, S. C., exact date to be decided later. Secretary-Treasurer, John H. Wohlers, Chief, Fire Department, Charleston, S. C.

June—NEVADA STATE FIREMEN'S ASSOCIATION. 1st Annual Convention, Reno, Nev. Secretary, Norman Brown, Carson, Nev.

June 8-11—FIRE CHIEFS' ASSOCIATION OF OHIO. 19th Annual Convention, Steubenville, Ohio. Secretary-Treasurer, Chief Philip J. Harty, Fire Dept., Youngstown Sheet & Tube Company, Youngstown, Ohio.

June 9-12—ANNUAL FIRE COLLEGE, ILLINOIS FIREMEN'S ASSOCIATION. 12th Annual Fire College, University of Illinois. Director, L. H. Provine; Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill.

June 17—NORTHWESTERN OHIO FIREMEN'S ASSOCIATION. 63rd Annual Convention, Bowling Green, Ohio. Secretary, J. W. Gardner, Ashland, Ohio.

Juen 22-23—MISSOURI VALLEY CHIEFS' ASSOCIATION. 2nd Annual Convention, Black Hawk Hotel, Davenport, Ia. Secretary-Treasurer, Chief Ray Tiller, Waterloo, Ia.

June 23-25—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 14th Annual Convention, Hartford, Conn. Headquarters, Hotel Bond; Exhibits, Armory. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.; Chairman, Exhibit Committee, Chief Daniel B. Tierney, Arlington, Mass.

June 24-26—MARYLAND STATE FIREMEN'S ASSOCIATION. 44th Annual Convention, Hagerstown, Md. Secretary, George R. Lindsay, Hagerstown, Md.

July 7-10—PROVINCE OF QUEBEC POLICE AND FIRE CHIEFS' ASSOCIATION. 4th Annual Convention, Grand'Mere, Que., Can. Secretary-Treasurer, Chief Robert Harrington, Fire Dept., McColl-Frontenac Oil Co., Ltd., Windsor Hotel, Montreal.

July 27-30—WEST VIRGINIA FIRE SERVICE EXTENSION SCHOOL. 6th Annual School, West Virginia University, Morgantown, W. Va. Director, D. L. McElroy, at the University.

Aug.—CENTRAL DISTRICT FIREMEN'S ASSOCIATION. Annual Convention, one week, date to be announced later. Secretary, Gilbert Coble, P. O. Box 366, Punxsutawney, Pa

Aug.—NATIONAL MUNICIPAL SIGNAL ASSOCIATION. 41st Annual Convention, New York City. (Exact date to be announced later.) Secretary, W. H. Harth, Columbia, S. C.

Aug.—UTAH STATE FIREMEN'S ASSOCIATION. 36th Annual Convention, Ogden, Utah. (Exact date to be decided later.) Secretary, John J. Creedon, P. O. Box 25, Bingham Canyon, Utah.

Aug. 17-20—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 14th Annual Convention, Lodi, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth Ave., San Diego, Cal.

Oct. 13-15—ILLINOIS FIREMEN'S ASSOCIATION. 49th Annual Convention, Pekin, Ill. Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Jacksonville Reduces Fire Losses

Chief W. Q. Dowling, of Jacksonville, Fla., reported that the fire losses in his city for 1935 amounted to $143,748, the lowest in twelve years, and $131,988 less than the losses for 1934.

Of the 1,604 alarms received last year, 143 were false and 49 were for points outside of the city limits. There were a total of 759 fires in automobiles, brush growths, boats, etc. The report shows that a total of 570 fires inside buildings were controlled at the point of origin.

Decatur, Ill., has approved specifications for a new pumper to cost about $15,000. Chief Will Platt has recommended a truck with an enclosed body. The pump will have a capacity of 1,000 g.p.m.

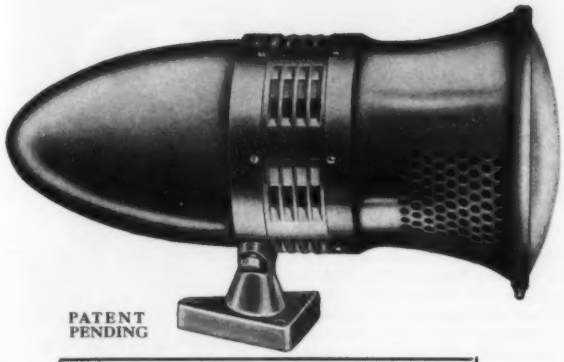
The value of proper fire defenses was demonstrated at Little Sioux, Ia., when a $40,000 fire virtually wiped out the business district of the small town. Fire departments from Onawa and Missouri Valley responded, but the lack of a water system prevented the pumpers from being used.

STERLING *Announces*

THE SIRENLITE

Combined Siren and Flashing Red Light

You Can **HEAR** it and **SEE** it!



PATENT PENDING

NOW you can enjoy greater safety—faster runs—by installing the SIRENLITE on all your apparatus. Here at last is the ideal warning device, a powerful, penetrating siren and a flashing red light that can be seen for blocks ahead. Cuts a path of safety instantly, through heavy traffic.

The SIRENLITE is the most practical warning device ever offered the fire service. If you value your own safety and that of your men you will write immediately for complete information on the SIRENLITE.

THE SIRENLITE
combination of
No. 20 Free Rolling Jr. Siren and
Powerful Red Flashing Light

A precision built instrument, with the same sturdy construction of all STERLING Sirens. Backed by the world's largest exclusive manufacturers of sirens, with over thirty years experience in the making of nothing but quality sirens. The SIRENLITE combination, adaptable for all emergency veihcles can be had for slightly more than the cost of a good siren and a lot less than both siren and warning light would cost. Place your order now!

$49.50

Chromium plated.

The Sterling Siren Fire Alarm Co., Inc.
Rochester, N. Y.

VOLESKE FIREMEN'S BAR CUTTER

Built of special material, unusually strong, cuts ¾" square or round. . . . Weight, 19½ lbs.

Barred Doors and Windows Can Be Quickly Cleared

Sometime ago a car hit a bus which contained seven passengers. They were pinned inside, with arms and legs broken. Blow torch could not be used because of gasoline. In order to get the persons out safely the sheet iron and rods had to be cut. Our Nos. 17 and 18 were used, which saved these seven lives.

Our machines have been used in state hospitals, elevators, automobile wrecks, and many other emergencies.

VOLESKE TOOL COMPANY
2130 N.W. York Street PORTLAND, OREGON

Reduce WATER DAMAGE & INSURANCE RATES

With Shuredry SALVAGE COVERS

BETTER YOUR RECORD

In every city where Shuredry Salvage Covers are a part of regular equipment taxpayers have benefited.

Three-fourths of all fire losses are directly chargeable to water damage. Reduce this hazard and better your record. Specify Shuredry Salvage Covers. Drill your men in their use.

Write to our nearest plant for full information and prices.

Fulton Bag & Cotton Mills
Manufacturers Since 1870
ATLANTA ST. LOUIS DALLAS
MINNEAPOLIS BROOKLYN NEW ORLEANS KANSAS CITY, KAN.

SOOT BLAST
Puts out chimney fires

A vital NECESSITY IN EVERY DEPARTMENT

NO ZINC - NON-EXPLOSIVE

Saves climbing icy roofs; saves chemical damage; saves injury to firemen; saves time and money; cuts fire loss by putting out bad chimney fires in less than 6 minutes.

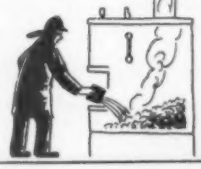
Now being used by U. S. Government

Price $4.50 per case of 12 packages

See your LOCAL DEALER or write to

The STEBIS COMPANY

MINNEAPOLIS, MINN.



SOOT-BLAST

Also comes put up in 100 lb. bags at $12.50 per bag.

"HIGH MAN"
in the Low Cost Floodlight Test

Here's why there are more Homelite Portable Floodlighting Plants in firefighting service than all other makes combined. Homelites are low in cost—weigh only 89 pounds, complete with gasoline engine—supply 1,250 watts—operate several floodlights—and are dependable as daylight.

With a Homelite you can give your men the brilliant light they need for speeding work, preventing accidents and making rescues *and still keep within your budget.* You can carry the plant anywhere. Set it up quickly. Start it instantly—in any weather. A Homelite is completely automatic; there are no adjustments or controls to operate. It is oilproof, dustproof, and waterproof. It is rugged, sturdy, and economical to run. Its air-cooled gasoline engine can't flood, freeze or overheat.

A smaller size generates 650 watts and weighs 71 pounds. Send for bulletins.

HOMELITE Corp.

902 RIVERDALE AVENUE PORT CHESTER, N. Y., U. S. A.

RED COMET STOPS FIRE AUTOMATICALLY

and is now protecting hundreds of homes, stores, industrial plants, warehouses, garages, filling stations, automobiles, trucks and busses, in every state in the Union, in Alaska, Canada, and in hundreds of Fire Departments.

We want Fire Department men to represent us!

We have splendid openings in some territories where we particularly want Fire Department Men to represent us. Commissions are good—and we have a complete line of Automatics, Manual Grenades, Pump Guns, Soda-Acid and Foams in 2½ Gallon Size, Chemical Engines, Fire Sirens, and unusually good Fire Department Hose.

If you have any time on your present job, be sure to write us for Free Facts and complete information, which will be sent you without any obligation.

RED COMET, INCORPORATED

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HIGHEST QUALITY

MOTOR FIRE APPARATUS

Send in your Specifications for Prices

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ELMIRA, N. Y.

CAIRNS LOW HEAD—CUSHION LINED HELMET

COMFORTABLE AS YOUR OLD FELT HAT; WON'T SHAKE OFF

Never go to a fire without the protection of a good helmet. It may save your life.

DESIGN - - MATERIALS - - CONSTRUCTION
ALL PROVED RIGHT BY YEARS OF ACTUAL USE

Ask for Catalog 228

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444 LAFAYETTE STREET - Established 1836 - NEW YORK

Valuable Information

All the manufacturers you will find represented in our advertising pages have interesting and valuable data about their equipment which is yours for the asking. When writing, be sure to mention FIRE ENGINEERING.

"The Bad Master" Shown to Fairfield Chiefs

Over 100 chiefs, officers and guests of the Fairfield County Fire Chiefs' Emergency Plan met in the Tunxis Hill Fire headquarters, Fairfield, Conn., for the January meeting of the Plan on Wednesday evening, January 22. Retired Chief Peter Beckerle, of Danbury and Chief George Brencher, of Darien, of the Legislative Committee, reported that the book containing the state statutes pertaining to Fire Departments would be ready for distribution soon. This book was compiled through the cooperation of the PWA.

Chief Frank R. Gisborne, of Old Greenwich, President of the Plan, presided over the meeting. Addresses of welcome were given by John Ferguson, First Selectman of the town of Fairfield; Chief Manne Norell, Chief of the Tunxis Hill Fire Department; William Bausch, President of that company, and Commissioner Edward von Holtz, Fairfield, Chairman of the Board of Commissioners.

A. R. Robertson, Manager of the Bridgeport branch of the Aetna Affiliated Company, of Hartford, was the principal speaker of the evening and with the cooperation of Mr. Casevant, Safety Engineer, showed films emphasizing safe driving of motor vehicles, as well as a film, "The Bad Master," which pertained to causes of fires.

Second Assistant Chief Francis W. Alexander, Fairfield Fire Department, was elected to membership.

Assistant Chief Stuart Potter, of Old Greenwich, Chairman of the Ways and Means Committee, revealed that questionnaires, which his committee was empowered to draw up, had been typewritten and they were distributed at the meeting and, are to be sent to Chiefs not present.

"Does your fire department replace sprinkler heads?" was the only question in the question box and was answered by Retired Chief Peter Beckerle, of Danbury, who said that during his terms of office, his department never left the building until all sprinkler heads had been replaced, so that building was ready for another emergency.

It was announced that Chief Arthur Chambers of Yonkers, N. Y., would be the speaker at the next meeting, which will probably be held at the Town Hall, Newtown, Conn. As Chief Chambers recently returned from a trip abroad, it is expected that the Chief will use this theme for his talk, as he studied the methods of European, especially English, fire fighting while abroad.

Nevada Firemen Organize

At a meeting held at Carson on January 14, the Nevada State Firemen's Association was formed to benefit the volunteer and paid firemen of the state. It is the first organization of fire fighters to be formed in Nevada.

Chief William R. Shaber, of Sparks, was elected President. He is also State Vice-President of the International Association of Fire Chiefs, and the Pacific Coast Association of Fire Chiefs.

The other officers are George Twaddle, Reno, First Vice-President; Norman Brown, Carson, Secretary; and Philip Wenholt, Minden, Treasurer.

Ten Nevada cities were represented at the organization meeting. There will be a meeting at Reno some time in June.

New York Firemen's Gift to Jenny Lind Sold

A set of Audubon's "Birds of America," which was presented to Jenny Lind, the great singer, by the New York Fire Department in 1850, during her tour of the United States under the management of P. T. Barnum, was recently sold in London for $812. The original folio edition of the Birds of America, engraved by Robert Havell, was published in London in 1830-39 and cost $200,000 to produce. The set given to Jenny Lind was provided with a rosewood bookcase and was bound in vellum, ornamented with fire ladders, helmets and other emblems of the service. The entire personnel of the Fire Department subscribed to the gift to the celebrated singer.

Massachusetts Chiefs Meet in Boston

Louis E. MacBrayne, Secretary, Massachusetts Safety Council, and Alfred L. Miner, Chairman, Fire Prevention Committee of the Council, were the speakers at the meeting of the Fire Chiefs' Club of Massachusetts held in the Parker House in Boston on January 15. Eighty-three persons were present at the luncheon which preceded the meeting.

Chief Charles L. McCarthy, of Worcester, presided, assisted by the Secretary of the club, Chief William H. Hill, of Belmont.

Among those who took part in discussion of various topics were Chief Albert E. Miller, Plymouth; Chief Herman E. Gutheim, Cambridge; Chief William C. Mahoney, Peabody; Chief David A. DeCourcy, Winchester; Chief Edward F. Dahill, New Bedford; Chief Selden R. Allen, Brookline; Chief George L. Johnson, Waltham; Chief John W. O'Hearn, Watertown; and Chief Powers, Clinton.

HARRY BELKNAP

Decatur Buys Closed-Body Pumper

Decatur, Ill., has placed an order with the General Fire Truck Company for a sedan type 1,000-gallon combination pumper. Delivery is expected about May 1.

Although there was no provision in the budget for the purchase, it was put through as an emergency measure, the money for which will be included in the budget to be drawn next spring.

Figures Are His Hobby

Earle L. Robinson, of Des Moines, Ia., is a fire buff whose hobby is not fires but figures. In an effort to secure new apparatus for the department, he has bombarded city officials with elaborate charts, tables and statistics to prove the need for such an improvement.

He has figured out that the Fire Department is the only organization in which the less work they do, the more profit they show.

Parry, N. J., has received a Pirsch-Ford pumper, and New Market, N. J., a Pirsch-Dodge 500-gallon pumper. The apparatus was sold by the New Jersey Fire Equipment Company, Dunnellen, the New Jersey representatives of Peter Pirsch and Sons Co.

Dinner Given to Chief Louis Almgren Upon His Retirement

Friends of Chief Louis Almgren, San Diego, Cal., arranged a dinner in his honor just before he retired from the fire service. From left to right at the speakers' table are Baron Long; Allan Wright, City Clerk; DeGraff Austin, Secretary of the Athletic Club; Fire Marshal E. R. Newton, San Diego; Senator Ed Sample; George Whittell, Honorary Chief; Lieutenant Governor George Hatfield; Chief Louis Almgren; Jay W. Stevens, State Fire Marshal; Mayor Percy Benbough, San Diego; Chief J. E. Parrish, San Diego; Congressman George Burnham; Senator Ed Fletcher; Chief Charles J. Brennan, San Francisco; Rev. Haggerty; Father W. P. Kelly; Rev. Osborne; Ex-Mayor Austin, and Fred Opp.

Pittsburgh Adopts New Assignment Card

Subject to the abolishing of Engine Companies No. 18, 41 and 48 by the City Council, which became effective, January 1, 1933, resulting in many changes in the assignment and transferring of Fire Companies answering alarms of fire, a new up to date fire alarm assignment card system became necessary, which will supersede and simplify the system now in use. The new card is now in the hands of the printer.

Box locations and assignments, formerly printed on two separate cards, the one card showing the box number and location at the top and the assignments and transfers below and the following card showing the corresponding box numbers and locations only, are now all included on a single card of the same size as the old card system, 4 inches wide and 8¾ inches long.

The new card system which like the old one, shows assignments and transfers for six alarms, required a thorough study and several months work on the part of the Deputy and Battalion Chiefs under the direction of Chief Richard L. Smith, in working out the many changes made necessary in the assignment and transfers of fire companies.

By the grouping of a number of fire boxes and locations having the same assignments and transfers on one card instead of having a single assignment card for each and every fire box, practically reduces the number of assignment cards in the new system by over one-half. A new system of guide cards has also been worked out, the number of guide cards being reduced from 150 to 91. Some of the new assignment cards, especially those covering the high value business and manufacturing districts show as many as nine boxes on one card.

WILLIAM E. PATTERSON

$59 Loss for 3,200 Community

During 1935, fire losses at Fort Peck, Mont., were kept down to $59.81. In the town and nearby floodplain of the river, there are over six hundred buildings, of which only thirteen are of the permanent type. The others are of wood frame construction, in which natural gas is used for heating, cooking and heating water.

Three fires occurred with respective losses of $32.81, $12 and $15.

Apparatus from the post answers fire calls in the town of Fort Peck, having 3,200 population, and in the surrounding towns which have a combined population of 12,357.

Ex-Chief Heyl, Madison, Dead

Charles W. Heyl, who retired as Chief of the Madison, Wis., Fire Department on March 1, 1929, died at his home on January 20, at the age of seventy-eight. He had been confined to bed for the past several months. He was Chief for twenty-two years. Chief Heyl is survived by his widow, two sons, and one sister.

Warren, Ariz., Has No Loss Record

Chief J. J. Murphy, Warren, Ariz., reported an enviable "no loss" record for 1935. In 1934 the fire loss was $1,047. During the past year the department made seven runs, stretched no large hose lines, and discharged but twenty-five gallons of water from the booster tank. The department made thirty-seven fire prevention inspections during 1935 and eleven fire hazards were corrected.

Hartford, Conn., Named for Convention

The 1936 convention of the New England Association of Fire Chiefs will be held at Hartford, Conn., June 23 to 25. The headquarters will be at the Hotel Bond, and the exhibits will be arranged at the armory, about one-fourth mile from the hotel. Chief Daniel B. Tierney, Arlington, Mass., is Chairman of the Exhibit Committee. The program is now being arranged.

1935 Losses Cut $16,000,000

According to figures tabulated by the National Board of Fire Underwriters, the fire losses in the United States for 1935 were $16,492,115 below that for 1934, even though the losses for the last four months of the year were higher than those for the year previous. The following table shows the losses, month by month.

	1934	1935
Jan.	$28,002,583	$23,430,504
Feb.	31,443,484	25,081,025
Mar.	31,312,359	24,942,703
April	22,028,943	23,267,929
May	25,271,459	21,238,205
June	20,005,692	18,499,095
July	19,484,027	19,293,619
Aug.	19,613,146	18,137,000
Sept.	16,243,870	16,641,882
Oct.	18,236,272	19,785,871
Nov.	20,114,346	20,871,584
Dec.	23,895,879	27,969,288
12 mos.	$275,652,060	$259,159,945

Chief August G. Derra, Schenectady, N. Y., observed his thirty-sixth year of service with the Fire Department. He has been head of the department for eleven years.

RUNNING CARD AND LOCATION OF FIRE ALARM STATIONS

1591

ENGINE COMPANIES						H. & L. COS.		CHIEFS		ENGINE COMPANIES TO CHANGE LOCATION										H. & L. CHANGE
5	26					5		1												
4	3							D		12-4	58-5	22-12	2-3	14-26	28-14					
58	2					3				12-5	19-4	33-3								14-5
12	14							4		19-5	11-4	60-11	6-26	25-6						
19	33					14				30-5	42-3	49-42	47-30							25-14 30-25
30	42					12		2		49-3	58-42	24-5	31-24							

1591 Bedford Ave. and Seal St.

RUNNING CARD AND LOCATION OF FIRE ALARM STATIONS

*41 *42 *43 *43 *45 *46 *47 *48 *49

ENGINE COMPANIES						H. & L. COS.		CHIEFS		ENGINE COMPANIES TO CHANGE LOCATION										H. & L. CHANGE
33	32	3	1		S.1	1	3	1	D											
19	2	30	4				46			11-30	46-33	24-4	7-3	25-7	10-1	39-10				25-3 30-25
11	46	7	24					2		12-4	22-12	47-30	42-33	49-42	25-3	6-7	8-6	16-8		
10	42	25	12				25			5-3	58 5	14-4	28-14	31-24	50-33	44-1	45-44	29-16		5-3
47	50	5	14				5	4		49-33	51-42	6 3	28-4	8-7	9-6	34-14	61-34	23-22		12-1
44	49	6	45				12	5		55-44	17-30	60-17	8-33	16-7	38-8	22-3	23-12	59-23		14-1 42-14

41 Seventh Ave. and Grant St.
42 Liberty and Seventh Aves.
43 Smithfield St. and Strawberry Way
44 Sixth Ave. and Smithfield St.
45 Liberty Ave. and Seventh St.
46 Liberty Ave. and Strawberry Way
47 Sixth Ave. and Wood St.
48 Wood St. and Oliver Ave.
49 Liberty Ave. and Sixth St.

RUNNING CARD AND LOCATION OF FIRE ALARM STATIONS

1512 1513

ENGINE COMPANIES						H. & L. COS.		CHIEFS		ENGINE COMPANIES TO CHANGE LOCATION										H. & L. CHANGE
3	4	5	S.1			3		1	D											
26	30	2				5				12-4	58-5	19-3	22-12	28-26	47-19					
58	19	12						4		24-4	31-24	33-5	32-3	46-33						
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42	11	28						2		7-3	25-7	47-1	19-19	39-10	44-47					
7	47	6				25				10-4	44-19	49-3	50-42	14-26	16-14	38-8				47-1

1512 Congress and Epiphany Sts.
1513 Wylie Ave. and Washington St.

New Running Card and Location of Fire Alarm Stations for the Pittsburgh Fire Department

Assignment cards are to be printed on heavy buff cardboard, 8¾ x 4 inches. Upper—Assignments and transfers shown cover residential districts. Center—High value downtown districts. *Indicates water tower. Lower—Congested, residential, manufacturing and warehouse districts, apartments, tenements and store buildings.

INDIANS INTO ACTION TODAY!

INDIAN FIRE PUMPS ARE IN USE ALL OVER THE WORLD—FIRE CHIEFS ACCLAIM INDIANS THE MOST VALUABLE EQUIPMENT OBTAINABLE FOR FIGHTING FOREST, BRUSH, GRASS AND SPOT FIRES

STOP FIRE LOSS NOW WITH *INDIAN FIRE PUMPS!*

Their extreme sturdiness and adaptability to all sorts of conditions make them useful equipment in any emergency.

The ever increasing number of orders received from rural and city fire departments is conclusive proof of the effectiveness of these 5 gallon extinguishers.

Low priced and using clear water only, INDIAN FIRE PUMPS come well within the budget of any department. Being constructed of the finest material throughout, INDIANS give years of continual service without attention.

SEND TODAY FOR CIRCULAR AND PRICE LIST

MADE IN U. S. A. BY

D. B. SMITH & COMPANY

UTICA, N. Y.

Pacific Coast Agents

Hercules Equip. & Rubber Co., 11 Mission St., San Francisco, Cal. — Pacific Marine Supply Co., 1217 Western Ave., Seattle, Wash. — Western Loggers' Machinery Co., 302 S. W. 4th St., Portland, Oregon

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CRACKERJACK FIRE HOSE

The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD OF THE WEST for over 25 years.

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COMPLETE INFORMATION UPON REQUEST

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THE AMERICAN RUBBER MANUFACTURING CO.

OAKLAND, CALIFORNIA

Dealers in All Parts of the Country

"GOODALL"

FIRE HOSE HEADQUARTERS

ALL TYPES

COTTON RUBBER LINED

PLAIN OR WAX AND GUM - FLAT OR REGULAR CURE

CHEMICAL AND BOOSTER HOSE

UNLINED LINEN — FIRE ENGINE SUCTION

Write for Agency Plan

GOODALL RUBBER COMPANY

5 South 36th Street — PHILADELPHIA, PA.

New York - Pittsburgh - Chicago - Cleveland - Houston

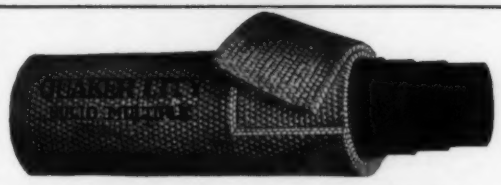
Bi-Lateral Fire Hose

The one hose that does not require frequent replacements. Always reliable for fire service no matter how old, if the jackets are intact.

Lined with three rubber tubes.

BI-LATERAL FIRE HOSE CO.

15 Park Row, New York, N. Y. — 20 N. Wacker Drive, Chicago, Ill.



QUAKER CITY FIRE HOSE

50 years have taught us a lot about making fire hose. This is your advantage when you buy it.

QUAKER CITY RUBBER COMPANY

MUNICIPAL FIRE HOSE SALES OFFICE:

Fox Bldg., 16th and Market Sts., PHILADELPHIA

Factory: Wissinoming, Philadelphia, Pa.

FALSE ALARMS

A DUPLICATE

A Captain in charge of a suburban station, was informed by telephone that his wife had died. As department regulations required that he could not leave his post without being relieved, and that applications for time off must be made on regular forms, he sent the following note to his Chief:

"I regret to inform you that my wife has just died, and I should be obliged if you could send me a substitute for the week end."

When you see a man standing on a street corner with a few Baldwins, you know he has lost most of his money. When you see a man passing by with a pippin, he's probably going to.

SAME ROUTINE

There was a two-day tournament at the county seat. A company of young, nattily attired firemen were at the railroad station waiting to take the train that would carry them to Centerville. Some pretty flappers were at the station to see them off.

"I think that it's a shame that all those nice fellows will be away. What will they do at Centerville?"

"What'll they do?" questioned the other with great surprise. "Ain't you ever been out with a fireman?"

A wealthy man says that he spent $10,000 on his son's education and only got a quarterback.

LACKED SUPPORT

A tall, husky fireman was assigned to duty at a dance hall. The neighborhood was not of the best, and neither were the patrons.

A customer took offense at the suggestion of the fireman that he stop smoking.

He shouted so all could hear, "That means fight where I come from."

"Well, why don't you fight?"

The visitor hesitated for a moment and then said, "'Cause I ain't where I come from."

MERELY OTHER WORDS

The station had a Captain who was quite blunt in expressing himself, and who was not very tolerant regarding blunders. This is why he sort of exploded at some task which was done wrong by a new member.

An old hand went up to the subject of the Captain's wrath and remarked:

"I hear that the Captain called you a blockhead. Is that correct?"

"No, sir, it isn't. He didn't put it that strong. He just said 'Pull down your cap, here comes a woodpecker.'"

The man who smiles and laughs away
The little cares of life today,
Will live to smile and laugh away
A greater trial some other day.

DO YOU SWARE TO LAY OFFEN BOOZE ?
YEAH !
SURE !
WHO WOULDNT ?
I'D RUTHER BE A FIREMUN AN' DRINK THAN ONE O' THEM TEETOTALIN' DRIVERS.
GESH I MUSHA LOSS M'FOWN PEN SOMMERS
NO TRUST F.D. RULE
I HEREBY DO PLEDGE TO ABSTAIN

—*Drawing by "Art" Espey*

If a Fire House Is a Club House, Then Why Shouldn't It Have a Bar?

Something out of the ordinary in the way of Fire Department management was started at North Haledon, N. J., when the State Alcoholic Commission granted the department permission to install a bar in the fire house. Although permission was granted, a member of the commission wrote to the Mayor questioning the wisdom of the move. He wrote: "If a fire should break out in your municipality, serious danger to life and limb might be occasioned if a single fireman were inebriated." The Mayor replied that he and the Council had full confidence in the ability of the firemen to avoid any such incident. He explained, further, that the department was a volunteer one, that the members owned the fire house, and that the building itself was a club house equipped with bowling alleys, shuffleboards and other sport equipment. The Alcoholic Beverage Commissioner said, "If the department were a paid one, regardless of any other circumstances, I would unhesitatingly declare it improper to issue a consumption license in respect of such premises, whatever the local board may certify."

Art Espey pictures the condition that may arise if truck drivers are required to sign the pledge.

DAYTON

Waterproof Suits

COATS as low as **$7.50**

Warm, comfortable, long wearing Bunker Suits. Coats of black, white or tan canvas, flannel or felt lined with waterproof interlining. Reinforced at points of wear. Wide storm flaps, heavy duty snaps. We also handle knee or storm boots.

FIRE DEPT. SUPPLIES

of every description, such as: badges, boots, caps, couplings, lanterns, helmets, nozzles, sirens, etc. Ask us to submit bids on your quantity orders.

DAYTON FIRE EQUIPMENT CO.
1109 W. THIRD STREET DAYTON, OHIO

ELK HART IND

34 years service in the fire field

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Prompt service
Quality products

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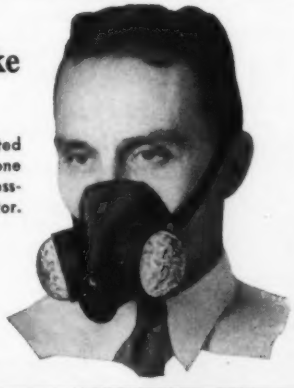
A PARTIAL LIST OF ELKHART PRODUCTS

Shut-Off Nozzles
Controlling Nozzles
Turret Pipes
Fire Department Extinguishers
Extinguisher Holders
Fire Truck Body Fittings
Hose House Equipment
All Types Hose Couplings
Sliding Poles, Railings and Canopies
Hose Test Pumps
Threading Tools
Coupling Expanders
Pump and Hydrant Valves
Hose Racks and Cabinets
Siamese Connections
Underwriters' Industrial Extinguishers

ELKHART BRASS MFG. CO.
ELKHART, INDIANA

Cover's Dupor Two Sponge Smoke Respirator



TWO large fine selected Sponges do the trick that one alone can't. At last, a successful *POCKET* Smoke Protector.

Price, $24.00 Dozen
Sample, $2.00, Postpaid

Address:
H. S. Cover, Station A
South Bend, Indiana
U. S. A.

EDDY

Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.
Waterford, N. Y.
James B. Clow & Sons, Chicago Agents

CRAMMED FULL OF INFORMATION

This 20 page booklet brings you UP TO DATE on COMPLETE FIRE-ALARM EQUIPMENT

Officials responsible for protection of life and property cannot afford to be uninformed of recent vital developments in Fire Department equipment...That's why you'll want to have the complete Horni booklet on Fire Department Communication Systems! It's free! And it is sponsored by two names long-famous for *dependable*, well-designed equipment—Horni, the manufacturer, and Graybar, the distributor . . . Mail the coupon *today*. *Note:*—We offer immediate delivery from our warehouse on electrical maintenance and line material items. Call us for quick service.

Handbook of Fire Protection

The eighth edition of the Crosby-Fiske-Forster "Handbook of Fire Protection" has just been issued. (National Fire Protection Association, $4.50.)

The first edition of the book was published in 1896. The authors of the previous editions have donated their rights to the N. F. P. A., and it is now issued under its auspices, with Robert S. Moulton, Technical Secretary of the society, as General Editor. A group of 109 men, all specialists in their respective fields, contributed in the preparation of the book. The eighth edition contains 1,153 pages and over 1,000 illustrations.

The fifty-eight chapters present information on fire losses and fire protection; laws and regulations; heating appliances, chimneys and flues; flammable liquids; gas and internal combustion engines; protection against lightning; dust explosions; hazardous chemicals and explosives; nitrocellulose film and pyroxylene plastics; fire causes by occupancies; fire resistive construction; heavy timber construction; protection of openings in walls and partitions against fire; fire retardant treatments; prevention of water damage; public fire protection; public water supplies; automatic sprinkler protection; private fire organizations; salvaging operations; farm and forest fire protection; conflagration hazards and protections, and a wealth of other information. N. N. W.

Maine Chiefs Meet at Gardiner

A quarterly meeting of the State Association of Fire Chiefs of Maine was held in Gardiner, Me., on January 14, with morning and afternoon sessions in the central fire station.

Mayor Edwin P. Ladd, Gardiner, delivered an address of welcome. The response in behalf of the association was made by Chief Charles O. Spear, Jr., South Portland.

Chief Joseph W. Randlette, Richmond, Me., spoke on "The Winter Care of Fire Hydrants" and Chief Oliver T. Sanborn, Portland, gave a demonstration of fire hazards. Luncheon was served at noon in the fire station.

The speakers at the afternoon meeting were Chief Allen Payson, Camden, Me., on "Emergency and First Aid Work;" P. C. Charnock, the New England Insurance Exchange, Boston, on "Appliances for Fire Departments;" and David Rubino, National Board of Fire Underwriters, on "Investigation of Fires." Other speakers were Chief Daniel B. Tierney, of Arlington, Mass., Second Vice-President of the International Association of Fire Chiefs, and Frank M. Tiffany and Charles "Sandy" Chapman, of the Gamewell Company. A banquet was held in the evening, followed by a round table discussion.

It was voted to hold the April meeting in Richmond, the July meeting in Brewer, and the October meeting in Saco.

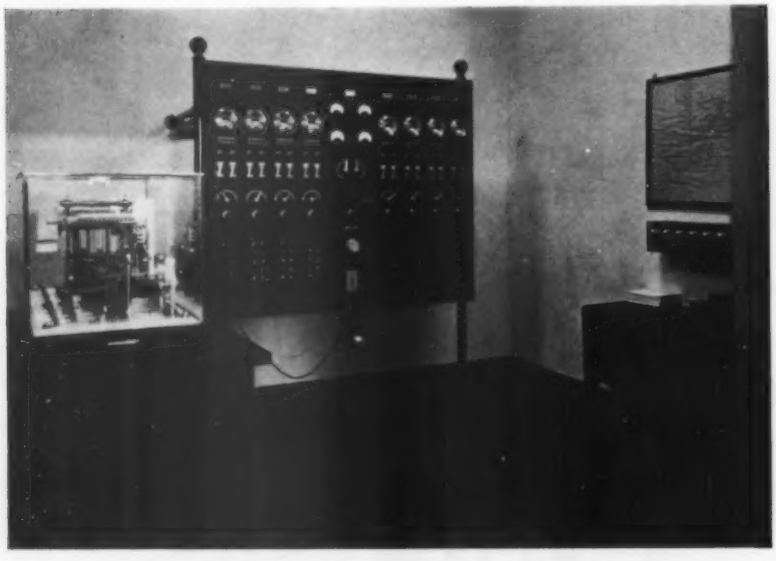
HARRY BELKNAP

Washington's Engine Moved

The hand fire engine which was used by George Washington at Mt. Vernon, Va., as been placed in the museum room at the base of the Washington Monument.

After it had served at Mount Vernon, it was purchased by a volunteer fire company of Baltimore, Md. When it had outlived its usefulness, it was stored in a park for many years.

Quincy, Mass., voted to purchase three new pumpers.



Central Fire Alarm Office Installed at Lenoir, N. C.

Through the assistance of the PWA, Lenoir, N. C., has installed a central fire alarm office consisting of an 8-circuit Gamewell storage battery switchboard. In the left is an automatic repeater for automatically transmitting fire alarms received over the box circuits to the fire stations. A. Y. Cottrell, Superintendent of Alarms, states that since the installation, the city has had one hundred per cent box alarms. Previously the residents depended on the telephone for reporting fires. For the first four months that the system was in service, the fire loss was reduced to $581, due to more prompt Fire Department response.

H. J. Hickey, Boston, Dead

Herbert J. Hickey, Executive Secretary of the Boston, Mass., Fire Department, died suddenly on January 8. He was appointed on January 16, 1911;

The Late H. J. Hickey

promoted to Secretary on May 28, 1920, and to Executive Secretary on December 17, 1926.

Affable and pleasant in manner, he had a host of friends and rendered highly efficient service in a difficult post under a number of different administrations and Fire Commissioners.

The funeral was held from his late residence, 29 Adams Street, Dorchester, on January 11 with a solemn high mass of requiem in St. Peter's Church, Meeting House Hill. There was an escort of thirty firemen under command of District Chief Daniel J. Hurley.

Among those attending the services were Fire Commissioner Edward F. McLoughlin, former Fire Commissioners Theodore A. Glynn, Eugene C. Hultman, Eugene M. McSweeney, Joseph P. Manning, and Thomas F. Sullivan; Acting Chief Thomas H. Downey; George L. Fickett, Superintendent of Fire Alarms and Chief Herman E. Gutheim, of the Cambridge Fire Department.

HARRY BELKNAP.

Equipment of two fire companies were reduced to ashes when fire razed the fire station at Pennsauken, N. J. Fire was of undetermined origin.

Chief Harry C. Jones of Fairfield, Ia., head of the department since April, 1929, has resigned because of ill health. Asst. Chief Truman Rowley has been elected to succeed him.

George F. Cobb, Boston, Mass., formerly Traffic Manager for the New England Association of Fire Chiefs, has been appointed State Commissioner of Firemen's Relief.

Chief Traeger, of Minneapolis, gave a talk on the part that Box 35 could play in the fire service, before a meeting of the Box 35 Associates held in Minneapolis. Others who spoke included P. T. Burns, Assistant Chief, and T. Edmunds, radio dispatcher of the Police Department.

FREE INFORMATION

JUST run down the list of equipment and jot down on the coupon below the numbers that indicate the equipment in which you are interested. Then fill out rest of the coupon and mail it to us.

We will then request the leading manufacturers of such equipment to send you descriptive literature and prices direct without any cost to you or obligation whatever.

The manufacturers we notify will gladly do this because they are advertisers and good friends of this publication and want to cooperate with our readers in every way possible in the improvement of their departments. So help yourself!

1 Acid Siphons
2 Adaptors for Changing Hydrant Threads
3 Acid Jars and Rings
4 Aerial Ladders, Detachable
5 Aerial Trucks
6 Alarms, Sirens, Electric
7 Alarm Systems, Industrial
8 Alarm Systems, Municipal Telegraphic
9 Alarms, Thermostatic
10 Asbestos Clothing
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars
14 Battery Zincs for Fire Alarm Batteries
15 Bells, Fire Alarm, Municipal
16 Body Equipments
17 Boxes, Gongs, Reels, Registers, Fire Alarm
18 Brakes, Air
19 Brake Linings
20 Brooms, Fire
21 Building Materials, Fire Retardant
22 Caps, Firemen's
23 Chains, Non-Skid, Fire Apparatus
24 Chassis for Fire Apparatus
25 Chemical Engines and Tanks
26 Chimney Fire Fuses and Compounds
27 City Service Trucks
28 Coats and Suits, Firemen's Quick Hitch
29 Combination Chemical and Hose Cars
30 Cutting and Welding Equipment, Blow Torch
31 Cutting and Welding Equipment, Electric
32 Deluge Sets
33 Door Openers, Fire Station, Automatic
34 Electric Light Plants
35 Extinguishers, Calcium Chloride
36 Extinguishers, Carbon Dioxide
37 Extinguishers, Soda-Acid
38 Extinguishers, Carbon Tetrachloride
39 Extinguishers, Foam
40 Extinguishers, Powder
41 False Alarm Prevention
42 Fire Boat Nozzle Equipment
43 Fire Department Supplies, General
44 Fire Exit Devices, Door Opening
45 Fire Alarm Posts
46 Fire Escapes, Portable
47 First Aid Equipment
48 Flare Lights
49 Flashlights, Hand
50 Flood Lighting Equipment (Lamps, Cable, Reels, etc.)
51 Foam Generating Apparatus
52 Foam Liquid for Extinguishers
53 Gas Masks and Respirators
54 Gas and Smoke Helmets
55 Gas and Smoke Generators
56 Goggles, Firemen's
57 Helmets, Metal, etc.
58 Hose Bridges
59 Hose Carts, Reels and Racks
60 Hose Clamps
61 Hose, Fire
62 Hose, Chemical
63 Hose Holders
64 Hose Jackets
65 Hose Standardization Tools
66 Hydrant Draining Pumps
67 Hydrants, Fire
68 Jacks for Fire Trucks
69 Jacks, Shoring and Prying
70 Ladders, Fire
71 Lightning Arresters
72 Motorcycles, Fire Dept. Equipped
73 Nets, Life
74 Nozzles, Pipes and Miscellaneous Brass Goods
75 Packings, Pump
76 Pads, Pole Hole
77 Paints, Fire Resisting
78 Priming Ether, Motor
79 Pumping Cars, Standard
80 Pumping Cars, Foam
81 Pumps, Fire Apparatus
82 Pumps, Fire Service, Stationary
83 Pumps, Portable for Fire Protection
84 Record Books, Fire
85 Relief Valves
86 Reviving Apparatus, Oxygen
87 Rubber Clothing
88 Salvage Covers
89 Searchlights
90 Shingles, Fire Retardant
91 Shirts, Firemen's Special
92 Sirens, Apparatus and Chiefs' Cars
93 Sliding Poles
94 Soda and Acid Chemicals
95 Spark Plugs, Fire Apparatus and Motorcycles
96 Squad and other Auxiliary Cars
97 Sprinkler Head Shut-Offs
98 Sprinkler Supervisory Service
99 Sprinkler Systems, Automatic, Foam
100 Sprinkler Systems, Automatic, Water
101 Steam Fire Engines
102 Syphons, Water
103 Tarpaulins and Fire Blankets
104 Tetrachloride Chemicals
105 Thawing Equipment, Hydrant
106 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid
107 Tractors
108 Traffic Clearing Systems
109 Triple Combination Pumping Cars
110 Uniforms
111 Water Towers
112 Wheels, Cushion
113 Whistles, Fire Alarm, Compressed Air
114 Whistles, Fire Alarm, Steam
115 Whistles, Fire Apparatus
116 Wrecking Trucks

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FIRE ENGINEERING
24 West 40th Street, New York City

As a Fire Protection official I should like to have descriptive literature and complete information mailed to me, without cost or obligation, on the equipment indicated by the following numbers:

Date.....

Name.....
Position.....
Street.....
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2-36

The world's most widely used mask for general respiratory protection

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GAS MASKS

APPROVED by the U. S. Bureau of Mines for protection against *all* poisonous industrial gases, including carbon monoxide, ammonia and smoke,—*the only canister-type mask so approved.* Equipped with Automatic Timer and non-fogging, shatter-proof lenses; shown above with M.S.A. Speaking Diaphragm Facepiece that fits any face perfectly and permits natural breathing, hearing, sight and speech. ● The Burrell All-Service is *protection plus;* let us arrange a demonstration for you.

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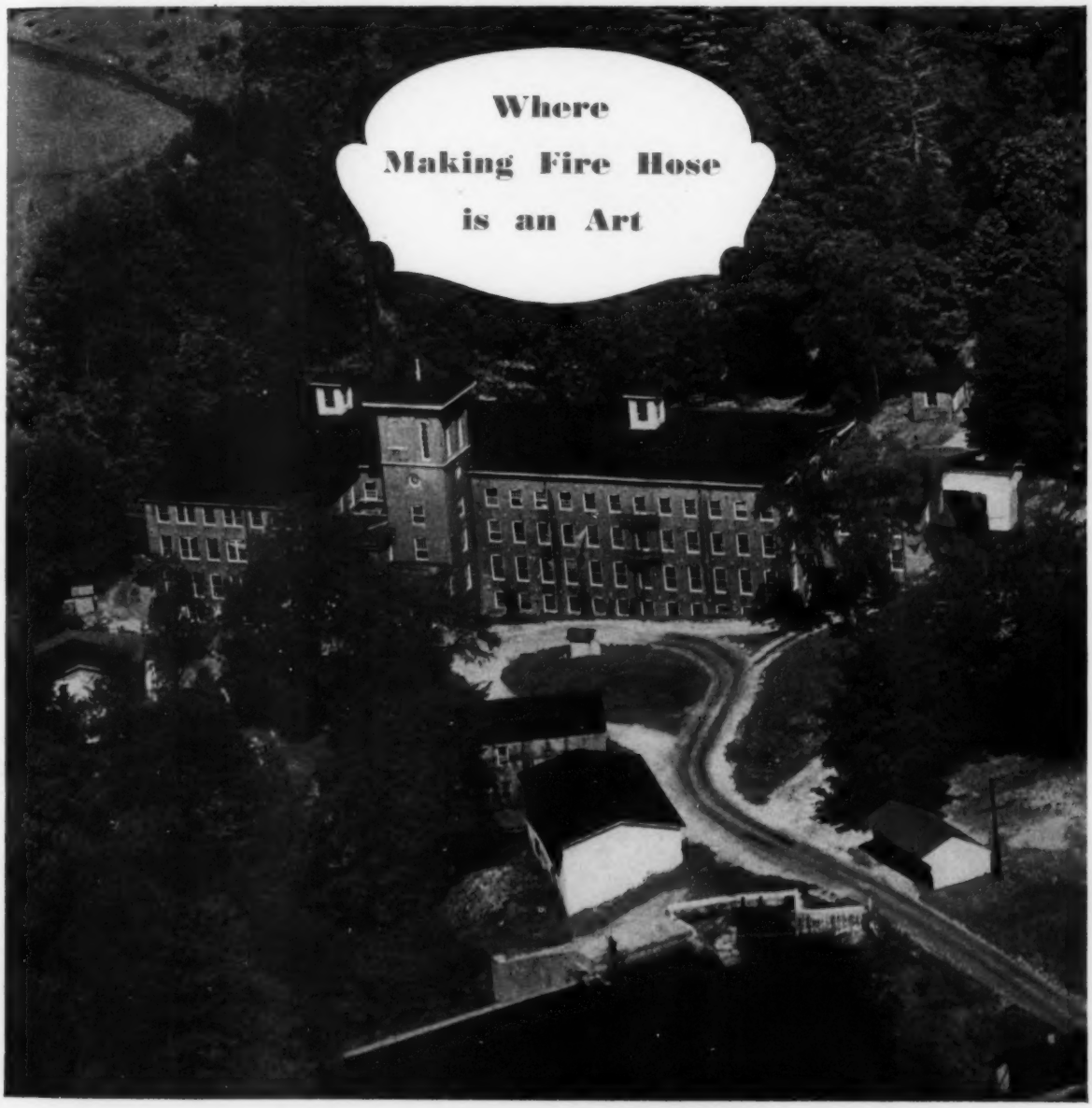
MINE SAFETY APPLIANCES CO.
Braddock, Thomas and Meade Streets, Pittsburgh, Pa.
District Representatives in Principal Cities

M. S. A. Products include Breathing Apparatus . . . Inhalators . . . Comfo Respirators . . . Masks of all Types . . . Gas Indicators . . . Gas Detectors . . . Safety Goggles . . . Protective Hats and Caps . . . Edison Electric Cap Lamps . . . Safety Clothing . . . First Aid Equipment . . . Submarine Escape Apparatus. Descriptive Bulletins will be sent on request.

ADVERTISING INDEX

ADVERTISING PAYS IN FIRE ENGINEERING

	Page
American District Telegraph Co.	77
American Rubber Mfg. Co.	77
American Steam Pump Co.	Inside Front Cover
Bi-Lateral Fire Hose Co.	77
Braxmar Co., C. G.	66
Buckeye Iron & Brass Works	69
Cairns & Brother	74
Cover, H. S.	79
Dayton Fire Equipment Co.	79
Eddy Valve Co.	79
Elkhart Brass Mfg. Co.	79
Eureka Fire Hose Division of United States Rubber Products, Inc.	Back Cover
Fabric Fire Hose Co.	Inside Back Cover
Federal Electric Co.	69
Firestone Tire & Rubber Co.	45
Fulton Bag & Cotton Mills	73
Gamewell Company	48
Garrison Engineering Corporation	65
Goodall Rubber Co.	77
Graybar Electric Company	79
Hale Fire Pump Co.	70
Hewitt Rubber Corp.	70
Homelite Corp.	74
INFORMATION FOR BUYERS	81
Kidde & Co., Walter	70
Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc.	47
Mars Light Co.	43
Midwestern Mfg. Co.	66
Mine Safety Appliances Co.	82
Northern Pump Co.	70
Quaker City Rubber Corp.	77
Red Comet, Inc.	74
Republic Rubber Co.	66
Smith Mfg. Co., D. B.	77
Stebis Co., The	74
Sterling Siren Fire Alarm Co.	73
Voleske Tool Company	73
Ward LaFrance Truck Corp.	74
Waterous Co.	70



Aerial photograph of our factory at Sandy Hook, Connecticut, the only plant in the United States making municipal fire hose exclusively. Genuine Wax and Gum Treated Cotton Rubber Lined Fire Hose has been our specialty for fifty-five years.

FABRIC FIRE HOSE COMPANY

SANDY HOOK, CONN.

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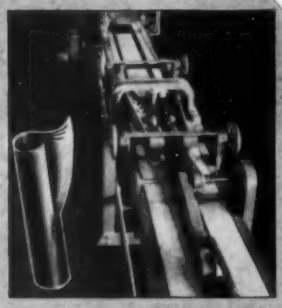

3. LAMINATED PLIES—Producing EUREKA Laminated Ply Fire Hose Tubes, the new and better tubes.

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If you are sure that your hose meets these requirements, you must be using a Eureka brand of hose.

Eureka, with the most complete line of quality fire hose ever made and over 60 years of manufacturing experience, is the largest manufacturer of fire hose in the country. Be sure to call in a Eureka representative and let *him* know your hose needs.

5. ATTACHING COUPLINGS—Quality Couplings are an important feature of quality Fire Hose.

4. VULCANIZING TUBES IN JACKETS—Each length of hose is cured on individual Steaming Head to eliminate subsequent distortion when under hydrostatic pressure.

6. TESTING FIRE HOSE—All Brands of EUREKA Fire Hose are tested under hydrostatic pressure before shipment.

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